



JRC SCIENTIFIC AND POLICY REPORTS

# Scientific, Technical and Economic Committee for Fisheries (STECF)

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## Landing Obligation - Part 5 (demersal species for NWW, SWW and North Sea) (STECF-15-10)

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This report was reviewed by the STECF during its 49<sup>th</sup> plenary meeting held  
from 6 to 10 July 2015 in Varese

Report EUR 27407 EN

European Commission  
Joint Research Centre (JRC)  
Institute for the Protection and Security of the Citizen (IPSC)

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JRC 96949

EUR 27407 EN

ISBN 978-92-79-50551-5

ISSN 1831-9424

doi:10.2788/692447

Luxembourg: Publications Office of the European Union, 2015

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#### How to cite this report:

Scientific, Technical and Economic Committee for Fisheries (STECF) – Landing Obligation - Part 5 (demersal species for NWW, SWW and North Sea) (STECF-15-10) 2015. Publications Office of the European Union, Luxembourg, EUR 27407 EN, JRC 96949, 62 pp.

#### Abstract

This report presents the responses of the Scientific, Technical and Economic Committee for Fisheries to requests from the European Commission for advice on the implementation of the EU Common Fisheries Policy. Advice is given in relation to the following: Landing Obligation (demersal species for NWW, SWW and North Sea).

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## **SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF)**

### **Landing Obligation - Part 5 (demersal species for NWW, SWW and North Sea) (STECF-15-10)**

**THIS REPORT WAS REVIEWED DURING THE PLENARY MEETING HELD IN VARESE,  
ITALY, 6 – 10 JULY 2015**

#### **Background**

Joint recommendations for discard plans have the purpose to provide the Commission with the agreement among Member States cooperating at sea-basin level on the elements for the preparation of Union law (Commission delegated Act) in accordance with Article 15.6 of the CFP Regulation. The five elements that can be contained in a discard plan are the following: definitions of fisheries and species, provisions for survivability exemptions, provisions on de minimis exemptions, the fixation of minimum conservation reference sizes and the documentation of catches. Following adoption of the omnibus Regulation (Regulation (EU) 2015/812) technical measures which are strictly linked to the implementation of the landing obligation and which aim to increase selectivity and reduce unwanted catches may also be included.

STECF is requested to review and assess individually the supporting documentation underpinning the first four elements mentioned above in the joint recommendations submitted by regional groups of Member States. STECF is not requested to consider the issue of documentation.

The joint recommendations apply to the following fisheries:

- a) NWW demersal: fisheries
- b) SWW demersal fisheries
- c) North Sea demersal fisheries

#### **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. In making their evaluation STECF is asked to take into account any additional supporting information they may be supplied by the Member States Regional Groups.

#### **Observations of the STECF**

The report of the STECF EWG 15-05 represents the findings of the fifth expert group meeting convened to address the implications associated with the implementation of the Landing Obligation, the provisions of which are prescribed primarily in Article 15 of the 2013 Reform of the Common Fisheries Policy (Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013).

STECF EWG 15-05 was requested to evaluate elements of the joint recommendations (JR) submitted to the Commission by Member States' regional groups in respect of demersal fisheries in North-western waters, South-western waters and the North Sea. STECF notes that in some cases, the fishery

definitions included in the JRs show potential anomalies and there are several trans-boundary issues where individual fisheries straddle different management areas with differing definitions. These may create difficulties for managers and fishermen.

In addition EWG 15-05 was requested to review and assess the supporting documentation underpinning proposed exemptions based on high survivability, de minimis and changes to minimum conservation reference size (MCRS). A request detailing additional technical measures to be introduced in the Skagerrak as part of the North Sea joint recommendations was also considered. On the basis of the report of EWG 15-05, STECF notes the following:

STECF re-iterates that without clear definitions of the terms, “disproportionate costs”, “very difficult to improve selectivity” or “high survival”, there are no objective scientific criteria to judge whether any proposed exemptions from the Landing Obligation (LO) are merited. Consequently, managers will need to judge whether such proposals are merited using relevant subjective criteria.

STECF notes that the EWG 15-05 has identified a number of general issues and limitations in the JRs that the Commission may wish to note. These broadly relate to inconsistencies in the definition of the fleets to which proposed exemptions relate. For de minimis exemptions, STECF notes that in many cases, it is unclear how de minimis catch volumes would be estimated (i.e. what total annual catches are to be used to estimate the de minimis volumes) and furthermore, to which fleets such de minimis volumes will be accessible. STECF notes that in relation to these points, additional information has been sought from the regional groups and in most cases been provided to the Commission. The STECF observations associated with such additional information are provided in Table 1, Table 2 and Table 3 below.

STECF notes that in many cases, the de minimis proposals are based around potential losses of marketable fish associated with improvements in selectivity. STECF also notes that because selectivity is generally not knife-edged (i.e. with a very narrow selection range), improvements in selectivity almost invariably result in some short term losses and that such losses should be viewed in the broader context of the overall impact of the Landing Obligation. In some cases losses in marketable catch may be offset to some extent by quota uplift, and furthermore the potential reductions in catches of fish <MCRS associated with improvements in selectivity, would reduce the amount of quota needed to account for catches that cannot be sold for human consumption. Furthermore, improved quality of catch and reduced sorting time arising from reductions in catches of individuals less than the MCRS may also offset any losses in value. All these elements would to some extent negate the negative economic consequences associated with the short term losses of marketable fish. In addition, improvements in selectivity and exploitation pattern are likely to result in medium-term increases in stock biomass and potentially higher yields to the fisheries.

STECF notes that several of the de minimis applications have focused on determining what additional costs would be incurred through (i) onboard sorting and handling of the catches; or (ii) costs associated with onshore disposal of unwanted catches. It is unclear to STECF whether de minimis exemptions based on additional costs associated with onshore disposal are in line with the spirit of the basic regulation or whether it was the intention of the regulators to seek economic evidence regarding the additional costs of handling unwanted catch, Article 15.5(c).ii could be interpreted in such a way that disproportionate costs of handling unwanted catch are simply assumed when the unwanted catch of a specific fishing gear is below a certain percentage of the total catch of that gear, and that the key element is that the percentage threshold would be established in a discard plan (STECF 13-23).

STECF notes that the introduction of the landing obligation will undoubtedly result in the increased retention of unwanted catches which will increase onboard sorting and stowage times as well as leading to the expansion of onshore handling, processing or disposal provisions. These are likely to be generic issues across all fisheries and in particular for those focused on multiple species. Therefore, there are no obvious ways to define when this issue becomes “disproportionate” in one fishery

compared to another. Furthermore, STECF also notes that the provisions regarding documentation of the catch (from 0 kg in the case of de minimis exemptions) will presumably require some increase in the sorting and handling times.

STECF notes that several of the de minimis proposals are supported with arguments that are based on the idea of "compensation" for selectivity measures that have already been introduced, rather than on the grounds that further selectivity is very difficult to achieve. In such cases, the proposed de minimis exemptions appear to be intended to cover residual discards and as such essentially equate to "business as usual" with the result that there will be little incentive for fishermen to try to further increase selectivity to reduce the residual unwanted catches.

STECF notes that the JR for the North Sea, includes a proposal to set the MCRS for *Nephrops* in the Skagerrak/Kattegat (IIIa) and the North Sea at 105mm total length (equivalent to about 32mm carapace length), which corresponds to the current minimum landing size for *Nephrops* from the North Sea (Current MLS in IIIa is 130mm total length, equivalent to 40mm carapace length). The lengths of 50% maturity for males and females in the IIIa *Nephrops* population is estimated to be 30mm and 27.8mm respectively (ICES 2006). Given that the proposed MCRS is above the L50 maturity sizes, STECF considers that the risk to the population of reducing the MCRS in IIIa so as to harmonise it with ICES Division IV, is small although any increase in mortality of smaller individuals from current levels will likely result in lower  $F_{MSY}$  values and therefore reduced yields.

STECF notes that several proposals in the Joint Recommendations are to exempt *Nephrops* from the landing obligation on the basis of high survival. As noted previously by STECF, there are no objective scientific criteria to determine what constitutes high survival and therefore STECF cannot provide specific guidance on whether the survival rates from experimental results presented in the Joint Recommendations can be considered high. Furthermore, as the survival rates presented in support of the proposals are based on captive experiments, where discarded animals are retained within tanks based on shore or on the sea bed, and therefore protected from potential post-discard scavenging they may be overestimates of the true survival rates. Furthermore, STECF (13-23) has noted that retaining and landing catches of animals that would otherwise have survived the discarding process increases fishing mortality on those size/age groups that would have been discarded, thereby potentially resulting in a negative shift in exploitation pattern. This would result in a reduction in fishing opportunities so as to remain within  $F_{MSY}$  objectives unless improvements in selectivity can be introduced.

STECF has previously noted that with the exception of studies associated with creel fisheries, which show captive survival to be greater than 80% in all cases, the limited data available associated with trawl discards indicate that discard survival of *Nephrops* is highly variable (12-88%). STECF also notes that for stock assessment purposes ICES assumes a post-discard survival rate for *Nephrops* in trawl fisheries of ~25% (depending on stock).

The results presented from studies in ICES Division IIIa indicate a much higher survival rate of *Nephrops* (59% and 73%) for trawls fitted with species-selective devices (SELTRA panels and grids respectively) than previously observed for trawls without any species selectivity device. The difference between the IIIa and the ICES estimates may in part, be due to a reduction in bulk catch associated with the species-selective gears that may have offered some benefits in terms of reduced compression in the cod-end during towing and reduced sorting time on deck, reduced sorting time has been identified as being beneficial to discard survival in general (SGMEDS, 2014). However, STECF notes that the ambient environmental conditions of relatively low air temperature and similar sea temperature (ca. 6°C) observed during the IIIa study period are likely to be a significant contributing factor to the observed survival rates. Seasonal variability in survival of *Nephrops* has previously been attributed to ambient environmental conditions, with lower air temperatures resulting in higher survival rates (Castro *et al.*, 2003).

Noting that further studies are planned during the summer in 2015, STECF considers it appropriate to await the outcome of the autumn 2015 experiments so that the results can be taken into account by managers in deciding whether survivability of *Nephrops* is to be considered high and whether to grant the proposed high survivability exemption on such grounds.

Furthermore, STECF notes that survivability studies usually only provide estimates of pre-discard mortality relating to the species under study and the type of fishing operation which includes inter alia, vessel- and gear-specific factors. To date, post-discard mortality for most species and fishing operations remains unknown and is extremely difficult to quantify. Nevertheless, the overall mortality of discarded fish may be higher than that estimated through captive survival experiments. It is also important to note that the estimated mortality rates from survival experiments are influenced by numerous factors that could vary widely over time and between vessels (see EWG 13-17). Hence, such studies only provide estimates of pre-discard mortality that reflect the circumstances that prevailed during the experimental trials.

Due to the practical difficulties, complexity and high costs of estimating survivability, particularly with regard to the assessment of post-discard mortality, it may not be possible to obtain estimates of overall discard survival for the vast majority of species and fisheries.

It is likely therefore that managers will need to take decisions on proposed exemptions based on information that may not be fully reflective of the true survival rate even if it has been obtained under rigorous experimental conditions.

**Table -1. Summary of additional information received relating to exemptions presented for North Western Waters**

<b>Fishery</b>	<b>Main Findings of EWG 15-05</b>	<b>COM comments to Regional Groups</b>	<b>Response by Regional Groups</b>	<b>Comments STECF PLEN 15-02</b>
<b>De Minimis</b>				
Sole in trammel net and gillnet fisheries in ICES areas VIIId, e, f and g.	Exemption is well defined. Additional selectivity improvements through increases in mesh size are demonstrated to be problematic to achieve without incurring losses of marketable sole although the potential scale of these losses have not been quantified. Proposed de minimis will lead to a status quo in discard rates.	No comments	No action required	No additional comments
Whiting in bottom trawls less than 100 mm (TR2) in the Channel (ICES area VIIde)	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Sufficient evidence is provided to support the exemption on the basis that further selectivity in the fishery is difficult to achieve. Current discard rates far exceed de minimis request so incentive to further improve selectivity remains.	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated. The volume of catch would also aid the examination of disproportionate handling costs.	Partial clarification (NL have provided data) regarding the fleet segments to which the exemption will apply. No further supporting information supplied because discard data is not available.	Clarifications provided partially address the issues raised by the EWG. No further data supplied from UK or FR –Cannot assess current discard level compared to the volume of the de minimis requested.
Whiting in bottom trawls greater than or equal to 100 mm (TR1) in the	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-	Partial clarification has been provided on the fleet segments to which the exemption will apply.	Clarifications provided partially address issues raised by EWG.



Celtic Sea and the Channel (ICES areas VIIb-j)	<p>de minimis volume</p> <p>Sufficient evidence is provided to support the exemption on the basis that further selectivity in the fishery is difficult to achieve. Further selectivity studies are ongoing with promising results and these measures should be implemented as quickly as practically possible.</p> <p>Current discard rates far exceed de minimis request so incentive to further improve selectivity remains.</p>	<p>de minimis should be calculated.</p> <p>The volume of catch would also aid the examination of disproportionate handling costs.</p>	<p>No further supporting information is available on discard rates in the fisheries.</p>	
Whiting in bottom trawl fisheries targeting mixed demersal finfish in the Celtic Sea (ICES Area VII excluding VIIa, d and e) with less than 100mm	<p>Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. No quantitative information on selectivity analyses is provided.</p> <p>Request is based on information on the economic performance of the fleet involved.</p> <p>Current discard rates far exceed de minimis request so incentive to further improve selectivity remains.</p>	<p>Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated. Further supporting information is required.</p>	<p>Clarification has been supplied on the fleet segments to which the exemption will apply. Further supporting information has been provided to strengthen the justification for the exemption on the basis that selectivity is very difficult to achieve but there is a paucity of relevant selectivity data.</p>	<p>The clarifications provided better define the fleet segments to which the exemption will apply. The additional supporting information does provide some level of justification for the exemption but basis is generic across all fisheries of this type.</p>
<i>Nephrops</i> in bottom trawl fisheries in ICES area VII	<p>There are inconsistencies between the Joint Recommendations and the annexes. It is unclear whether the exemption relates only to trawls and seines or whether it extends to all gear types in the fishery.</p> <p>The basis for calculating de minimis is unclear and it is not possible to estimate the de minimis volume.</p> <p>Sufficient evidence is provided to support the exemption on the basis that further selectivity in the fishery is difficult to achieve.</p>	<p>Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated.</p>	<p>Clarifications have been provided on the fleet segments to which the exemption will apply. No additional data provided.</p>	<p>Clarifications provided largely address issues raised by EWG</p>
<i>Nephrops</i> in bottom trawl fisheries in the West of Scotland (ICES Area VIa)	<p>Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume</p> <p>Supporting quantitative information shows costs for disposal of <i>Nephrops</i> &lt; mcrs to be significant.</p> <p>Further studies planned.</p>	<p>Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated.</p>	<p>Clarifications on vessels and areas to be covered have been provided.</p>	<p>Clarifications provided largely address issues raised by EWG</p>
Sole in beam trawl fisheries using a gear with increased selectivity in the channel (ICES Areas VIIId,e)	<p>There are a number of inconsistencies in the definitions of the fisheries to which the de minimis is to apply.</p> <p>Supporting information is unclear</p>	<p>Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated.</p>	<p>Clarifications have been provided on the fleet segments to which the exemption will apply. Further supporting information has been</p>	<p>Clarifications provided address issues raised by EWG Exemption is to compensate for the use of more selective gear and not because “to difficult to achieve” (i.e. the de</p>

and the Celtic Sea (VIII.g)	It appears the intention is to provide a de minimis volume as an incentive to improve selectivity.	Further supporting information on the fleets involved and the level of de minimis required should be better defined.	provided to strengthen the justification for the exemption on the basis that selectivity is very difficult to achieve.	minimis will cover residual discards after increasing selectivity and it is difficult to reduce these discards further)
<b>High Survivability</b>				
<i>Nephrops</i> using pots – VIa and VII	Results indicate survival rates of > 80%. The estimates presented are at the upper end of survivability studies using captive methods. Cannot quantify the potential post discard predation mortality	No comments	No action required	No additional comments

**Table 0-2. Summary of additional information received relating to exemptions presented for the North Sea and Kattegat/Skagerrak**

Fishery	Main Findings of EWG 15-05	COM comments to Regional Groups	Response by Regional Groups	Comments STECF PLEN 15-02
<b>De Minimis</b>				
<i>Nephrops</i> below MCRS caught by bottom trawl with a mesh size of 80-99mm	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Supporting quantitative information shows costs for disposal of <i>Nephrops</i> below mcrs to be significant (16% of the average net profit for vessels in the fishery)	Provide clarification on the areas, fleets to be covered by the exemption. Clarify on how the de-minimis should be calculated and why it appears to be quite high relative to reported discard rates.	Clarification of the fleet segments and areas to be covered has been provided. The rationale for a 6% volume of de minimis clarified - for parts of the industry discards below MCRS exceed 6% of catch and they have limited scope or vessel capability to adapt to fish on alternative grounds. De minimis request covers their needs. Should an exemption for high survivability for <i>Nephrops</i> in IIIa Skagerrak/Kattegat be granted, this de minimis would be limited to the North Sea (IIa+IV).	Clarifications provided address largely issues raised by EWG.
Common sole caught by beam trawls with a mesh size of 90-119mm or similar selective gears	There are a number of inconsistencies between the JR and annexes in the definitions of the fisheries to which the de minimis is to apply. Supporting information is unclear. It appears the intention is to provide a de minimis volume as an incentive to improve selectivity.	Clarify the actual fleet segments involved and provide further supporting information on the fleets involved and the level of de minimis required. Re-consider the exclusion of this exemption or provide further clarification and supporting information to demonstrate selectivity is difficult to achieve.	Request withdrawn but only for beam trawls with a minimum mesh size > 90 mm (an amendment to the JR might be proposed later). An exemption is maintained for beam trawls with increased mesh sizes in the extension of the beam trawl (Belgium study). Supporting information has been provided. Similar exemption applied for in NWW.	Exemption still seems to be to compensate for the use of more selective gear and not necessarily because selectivity is “very difficult to achieve”. (i.e. the de minimis will cover residual discards after increasing selectivity and it is difficult to reduce these discards further)
Common sole caught by beam trawls with a mesh size of 80-90mm	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume. Quantitative information presented is not clear whether disproportionate costs relate purely for sole or for all discards and therefore whether the assertions are correct or	Provide the supporting study and clarification on whether the costs are related to sorting the total catch or just the small quantity of sole below 19cm to allow assessment whether this exemption is justified and whether such significant increase in crewing are actually required in practice.	Clarification has been provided on the fleet segments to which the exemption will apply and on the basis for the calculation of the volume of de minimis. Additional information has been also provided on the supporting study.	Clarifications provide define the fleet and volume of de minimis. Issues presented are generic to all fisheries – costs for handling on board will be increased through the retention of unwanted catches regardless of the fishery. Unwanted catches have to be

	not.			documented so therefore will have to be handled to some extent.
Fish by-catch caught in <i>Nephrops</i> targeted trawl fishery	No quantitative information presented to demonstrate that increases in selectivity are difficult to achieve. The de minimis will lead to a status quo in discard rates.	Provide relevant supporting information on selectivity to support the exemption.	Additional information on relevant selectivity studies has been provided.	Clarifications provided address issues raised by EWG.
Common Sole caught in gillnets and trammel nets	The exemption is well defined. Sufficient evidence is provided to support the exemption on the basis that further selectivity in the fishery is difficult to achieve. The de minimis will lead to a status-quo in discard rates.	No comments	No action required	No additional comments
<b>High Survivability</b>				
<i>Nephrops</i> caught using pots – ICES area IIIa, IV and EU waters of IIa	Results indicate survival rates of > 80%. The estimates presented are at the upper end of survivability studies using captive methods. Cannot quantify the potential post discard predation mortality which means the survival rates are an overestimation	No comments	No action required	No additional comments
<i>Nephrops</i> caught with trawl gears in area IIIa – Grids and SELTRA trawl	Results indicate survival rates of > 75% for grid trawls and 59% for the SELTRA trawl which are at the upper end of survivability studies using captive methods The experiments were conducted under very favourable environmental conditions and may overestimate survival over the full year. Appropriate to await the outcome of follow-up trials so that the results can be taken into account when deciding whether survivability is to be considered sufficiently high to grant the exemption.	Confirmation is required that further studies are planned for Autumn 2015.	Further studies are planned for autumn 2015	No additional comments
<i>Nephrops</i> caught with trawl gears in area IV and EU waters of IIa - NetGrid	Based on extrapolation of the results from trials in the Skagerrak Not advisable to assume that survival rates of <i>Nephrops</i> in this fishery are the same as in the Skagerrak. Dedicated survival studies in the fishery for which the exemption is being	Review this exemption and clarify whether the intention to keep it in the Joint recommendation. If so further supporting information is required.	Request withdrawn at this stage. Research will be undertaken later this year with results expected by the end of March 2016: amendment to the JR expected in the future, if such exemption deemed as well-established by the Scheveningen Group.	No additional comments

	sought would be advisable.			
<b>MCRS</b>				
Harmonising the Minimum Conservation Reference Size (MCRS) for <i>Nephrops</i> in the Skagerrak with the North Sea	The risk of harmonising the mcrs is small although any increase in mortality of smaller individuals from current results will likely result in lower $F_{MSY}$ values and therefore reduced yields	No comments	No action required	No additional comments
<b>Technical Measures</b>				
Technical measures in the Skagerrak	No supporting information provided but these measures have largely been assessed previously by STECF	No comments	No action required	No additional comments

**Table -3. Summary of additional information received relating to exemptions presented for South Western Waters.**

<b>Fishery</b>	<b>EWG</b>	<b>Commission</b>	<b>Response RG</b>	<b>Comments PLEN 15-02</b>
<b>De Minimis</b>				
Sole in beam trawl and bottom trawl fisheries in ICES Subarea VIII and b	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume Supporting documentation demonstrates short-term losses as a result of an increase in mesh size. Supporting information on disproportionate costs is limited and qualitative.	Check the consistency of the joint recommendation concerning the de minimis exemptions against the supporting information in the annexes. Clarify which fleets are covered under the de minimis	Clarification given on fleets to which the exemption will apply and the calculation of the de minimis volume. Limited information supplied on the Belgium beam trawl fleet.	Clarifications provided largely address issues raised by EWG.
Sole in trammel net and gillnet fisheries in ICES Subareas VIII a and b	Not clear to which fleets the exemption will apply. The basis for calculating de minimis is unclear and not possible to estimate the de minimis volume Supporting information presents credible arguments but qualitative	Check the consistency of the joint recommendation concerning the de minimis exemptions against the supporting information in the annexes. Clarify which fleets are covered under the de minimis	Clarification given on fleets to which the exemption will apply and the calculation of the de minimis	Clarifications provided largely address issues raised by EWG.
Hake in bottom trawl fisheries in ICES Subareas VIII and IX	Not clear to which fleets the de minimis will apply Supporting information on increasing selectivity applies to a different fleet no covered	Provide additional information to strengthen the justification and to better define the exemption in terms of the fleets involved and the calculation of de	Clarification of the fleets to which the de minimis will apply has been provided. Clarification on how the de minimis will be calculated Additional selectivity	The clarifications provided better define the fleet segments to which the exemption will apply. The additional supporting

	under the LO. Arguments on disproportionate costs of handling are generic and do not relate directly to the exemption.	minimis.	information has been provided. Additional information has been provided on disproportionate costs. Confirmation has been given that further selectivity work will be undertaken.	information does provide some level of justification for the exemption on the basis of selectivity but still rather generic. Information on disproportionate costs presented is largely generic to all fisheries – costs for handling on board will be increased through the retention of unwanted catches regardless of the fishery. Further selectivity studies should be carried out to provide further evidence that improvements in selectivity are difficult to achieve.
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**High Survivability**

<i>Nephrops</i> in trawl fisheries in ICES Subareas VIII and IX	Supported by additional survival experiments. Supporting information presented in a powerpoint rather than with a final report. Average survival rate of 51% observed. Observation times for the survival experiments are relatively short (i.e. 3 days) and therefore the survival rates observed are probably an over-estimate. Little evidence was supplied to justify a survival exemption for <i>Nephrops</i> in Area IX concerning the Portuguese fleet. There is a summary of a set of Portuguese experiments but no reports provided.	Joint Recommendation should clearly indicate that further work will be carried out to confirm the survival rates observed. Provide supporting information for Portuguese fisheries. Provide reports form FR survival experiments.	Additional supporting information has been provided on the survival studies (FR report) conducted. Confirmation has been given that a tagging study is underway and further survival studies will be carried out. No additional information has been supplied relating to the Portuguese fisheries.	The additional supporting information illustrates the high degree of variability between survival experiments. A 1999 study referred to does show that 88-94% of the final discards mortality occurred within 3 days, and that no mortality was observed from 6 days in captivity. This still means that the French study did not measure survivability up until the point when mortality had stabilized in the 1999 experiments. Therefore survivability is overestimated. STECF also notes that a survival study relating carried out in Portuguese fisheries gave estimates of survivability of around 35%.
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**Conclusions of the STECF**

STECF concludes that without clear definitions of the terms, “disproportionate costs”, “very difficult to improve selectivity” or “high survival”, there are no objective scientific criteria to judge whether any proposed exemptions from the Landing Obligation are merited. Consequently, managers will need to judge whether such proposals are merited using relevant subjective criteria.

While STECF is able to give its opinion on the validity of the results of survival experiments presented in support of proposals for exemptions from the landing obligation and whether they have been obtained under rigorous experimental conditions, it has no objective scientific basis to judge whether the proposals in the Joint Recommendations constitute a “high survival rate”. STECF therefore concludes that it is a decision for managers to judge whether the results of survival experiments are to be considered high and hence take a decision on whether proposals for exemptions from the landing obligation on the grounds of high survivability should be granted.

STECF concludes that due to the practical difficulties, complexity and high costs of estimating survivability, particularly with regard to the assessment of post-discard mortality, it may not be possible to obtain estimates of the overall discard survival rate for the vast majority of species and fisheries. It is likely therefore that managers will need to take decisions on proposed exemptions based on information that may not be fully reflective of the true survival even if it has been obtained under rigorous experimental conditions. Hence, managers will have to make decisions on survivability exemptions based on incomplete information.

STECF concludes that the Regional Groups have largely addressed the issues raised by the European Commission in its communication to the Regional Groups following EWG 15-05 concerning numerous inconsistencies between the Joint Recommendations and the supporting annexes. Regional Groups have also generally clarified the fleet segments to which the exemption would apply and also how the de minimis will be calculated. The Regional Groups have also provided some additional information in support of several specific exemption proposals. STECF considers that such information and clarifications may be informative to managers in taking a decision on whether the proposed exemptions from the landing obligation should be granted.

Many of the proposed de minimis exemptions from the landing obligation in the Joint Recommendations are identified as transitional measures to be introduced pending the results of further selectivity experiments. STECF considers it important that once the results of such experiments become available, Regional Groups review their requirement for any proposed de minimis exemptions.

Selectivity enhancements may result in short-term losses in marketable catch and associated revenues but that such losses are a generic issue that will almost inevitably apply to all fisheries. Similarly, handling and disposal of small fish are also likely to be generic issues. STECF concludes that such impacts should be viewed in the broader context of the overall impact of the Landing Obligation which may offset some potential losses, for example through quota uplift and reductions in catches of fish <MCRS through selectivity improvements.



**REPORT TO THE STECF**

**EXPERT WORKING GROUP ON  
Landing Obligation - Part 5 (demersal species for NWW, SWW  
and North Sea) (EWG-15-05)**

**Arona, Italy, 6-10 July 2015**

This report does not necessarily reflect the view of the STECF and the European Commission and in no way anticipates the Commission's future policy in this area



## 1 EXECUTIVE SUMMARY

Due to the subjective nature of the wording in the basic regulation relating to the various de minimis conditionalities, in particular the concept of improvements in selectivity being “very difficult” to achieve and what constitutes “disproportionate costs” as well as what defines “high survival”. In the absence of any clear definitions, EWG 15-05 is unable to provide advice on whether any of these conditionalites have been met by the information and data presented, and therefore the decision on whether to approve an exemption is essentially a judgement call and one for managers to make. Notwithstanding, EWG 15-05 has sought to provide a series of observations relating to each of the submissions in the Joint Recommendations from the NWW, SWW and North Sea regional groups.

In many cases EWG 15-05 has noted that in many de minimis cases, the primary justification has been based on technical difficulties in improving selectivity. The background information contained in the technical annexes in each of the Joint Recommendations have tended to demonstrate this as highlighting losses of commercial catches due to some form of technical enhancement e.g. through increases in mesh size. While the EWG 15-05 notes that these changes do indeed incur some level of loss, whether these constitute technical difficulties in improving selectivity as the basis of a de minimis is exemption is unclear. Inevitably, improvements in selectivity result in some degree of loss as selection is not knife-edged, and therefore some reduction is revenue. However, these should be viewed in the broader context of the landing obligation, would the fishery be worse of in comparison due to choke effects and utilization of quota for fish that have little or no value? If implemented as intended, the landing obligation in the majority of mixed fisheries will necessitate improvements in selectivity in order to minimize these issues.

In total X de minimis applications have been sought by the NWW, SWW and NS groupings. The detail and the argumentation contained in each vary considerably, but the EWG notes that there are a number of aspects that the Commission may wish to obtain further clarification on. These broadly relate to clarifications on:

- i. The definition of the fleets that are to be subject to the LO as there are some inconsistencies between the JRs and the technical annexes.
- ii. How de minimis catches were to be allocated and to which fleet segments as in some case it appears that de minimis allocations would be distributed beyond the range of vessels covered by the LO.
- iii. Lack of landing and discard data associated with the fleets/vessels subject to the LO which is necessary to estimate of their relative contribution to the overall catches of the stocks concerned and the potential volumes of de minimis catches that may be attributed/allocated to them.
- iv. General of information regarding the number of vessels involves which coupled with the paucity in catch data makes any potential assessment of the scale of de minimis catches problematic.

EWG 15-05 notes and acknowledges that several of these issues were indeed clarified during the EWG meeting by the representatives of the various regional groupings, which was a useful and helpful process. Furthermore, EWG 15-05 notes that additional clarifications on some of the points raised within this report will be considered during the next STECF plenary (PLEN 15-02).

EWG 15-05 notes that several of the de minimis applications have focused on determining what additional costs would be incurred through (i) onboard sorting and handling of the catches; or (ii) costs associated with onshore disposal of unwanted catches. It is unclear to EWG 15-05 whether additional costs associated with onshore disposal is in line with the spirit of the regulation or whether it was the intention of the regulators to seek economic evidence regarding the additional costs of handling

unwanted catch.. EWG 15-05 further notes that the introduction of the landing obligation will undoubtedly result in the increased retention of unwanted catches which will increase for example onboard sorting and stowage times as well as necessitate expansion of onshore handling, processing or disposal provisions. This is likely to be a generic issue across all fisheries and in particular for those focused on multiple species, therefore, there aren't obvious ways to define when this issue becomes "disproportionate" in a fishery compared to another one.

Seven exemptions for *Nephrops* based on "high survivability" were presented for evaluation. As noted elsewhere (STECF 13-23), STECF is unable to determine what constitutes high survival, instead has noted on the experimental design and any particular limitations that may limit the usefulness or applicability of the results. All experiments have been undertaken using captive observation methods, where the discarded *Nephrops* are held in seawater tanks or in cages on the seabed and then observed over a period of time. While this is a commonly used and practical approach, in effect the animals are protected from any predation that may have occurred during the discarding process for example due to scavenging seabirds or fish. While studies are limited, seabird predation has been estimated to be in the order of 9% for creel discarded *Nephrops* while recent underwater observations of discarded *Nephrops* has shown some degree of predation by scavenging/predatory fish (Jordan Feekings, unpublished data), but the extent is unknown and these observations were from preliminary studies. In addition *Nephrops* populations are confined to mud habitat in which they form burrows. The survival of discarded *Nephrops* is also predicated on the fact that they (i) are discarded back onto a mud habitat and (ii) that they are able generate new burrows in order to escape potential predation. Combining these factors means that survival estimates obtained from captive experiments may overestimate both short and medium term survival and therefore managers may want to consider these factors when deciding upon approval of exemptions based on high survivability.

EWG 15-05 notes that the *Nephrops* fisheries using pots and creels, the survival rates is in excess of 80% and that this is at the upper end of the survival rates observed in other studies, which range from 12-98%. There are a wide range of factors that can affect survival and these are likely to be the primary cause of the high variability observed across the various studies. However, identifying and quantifying these is difficult due to the relatively limited species specific information and differences between experiments including timing, season, gear handling, observation period etc, etc. This means that passing judgment on the representativeness of individual or limited studies as an indicator of discard survival across an entire fishery is difficult given the range of factors that can influence survival and how they may vary in time even within a fishery. In two particular cases, survival associated with trawls equipped with species selective devices (grid and SELTRA panels) the estimates are well above those observed in other experiments to estimate discard survival in trawl fisheries (ca. 30%). While the reductions in by-catches due to the grid and SELTRA panels is likely to have resulted to some degree in the higher survival rates, the timing of the study (winter), is likely to have been a main contributing factor also. EWG 15-05 notes that further studies in this fishery are planned during summer months, and the EWG consider it appropriate to await the outcomes of these experiments so that the results can be taken into account by managers in deciding whether survivability of *Nephrops* is to be considered sufficiently high and whether to grant the proposed high survivability exemption on such grounds. EWG 15-05 notes the proposal for a high survival exemption in a separate trawl fishery has been proposed based on the outcomes of the study noted above. Given the high variability between studies and the potential impact of environmental conditions (i.e. low ambient air and sea temperatures with a low gradient between them), EWG 15-05 consider it appropriate to undertake dedicated survival studies rather than transfer the results from one study as the basis for an exemption.

## 2 INTRODUCTION

### 2.1 Terms of Reference for EWG-13-05

#### Background

Joint recommendations for discard plans have the purpose to provide the Commission with the agreement among Member States cooperating at sea-basin level on the elements for the preparation of Union law (Commission delegated Act) in accordance with Article 15.6 of the CFP Regulation. The five elements that can be contained in a discard plan are the following: definitions of fisheries and species, provisions for survivability exemptions, provisions on de minimis exemptions, the fixation of minimum conservation reference sizes and the documentation of catches. Following adoption of the omnibus Regulation (Regulation (EU) 2015/812) technical measures which are strictly linked to the implementation of the landing obligation and which aim to increase selectivity and reduce unwanted catches may also be included.

STECF is requested to review and assess individually the supporting documentation underpinning the first four elements mentioned above in the joint recommendations submitted by regional groups of Member States. STECF is not requested to consider the issue of documentation.

The joint recommendations apply to the following fisheries:

- a) NWW demersal: fisheries
- b) SWW demersal fisheries
- c) North Sea demersal fisheries

#### Terms of Reference

STECF are requested to:

- a) Review the identification of the fisheries and species to be covered in the discard plans.
- b) Review the supporting documentation for exemptions on the basis of high survivability. In data poor situations, assess what further supporting information may be available and how this be supplied in the future (e.g. survival studies, tagging experiments).
- c) Review the supporting documentation (biological, technical and/or economic) for de minimis exemptions on the basis that either increases in selectivity are very difficult to achieve, or to avoid handling unwanted catches would create disproportionate cost. In data poor situations, assess what further supporting information may be available and how this could be supplied in the future (e.g. discard data collection, selectivity studies).
- d) Review whether there is sufficient information to support proposed minimum conservation reference size(s) that deviate from existing minimum landing sizes, and whether they are consistent with the objective of ensuring the protection of juveniles.
- e) In the absence of a joint recommendation, STECF is asked to consider the advice of the relevant Advisory Council. Where no advice from an Advisory Council is available, STECF is requested to review and assess the supporting documentation provided by the Commission. In both these cases only (c) above is relevant and STECF should only consider the supporting information relating to possible de minimis exemptions in line with Article 15.7 of the CFP Regulation.

General Observations on the Scientific Evaluation of De Minimis and High Survival Exemptions STECF has previously commented on the two de minimis conditionalities: (a) difficulties in improving selectivity, and; (b) avoidance of disproportionate costs.

The first condition, Article 15.5(c)(i) notes that de minimis exemptions shall apply where:

*“where scientific evidence indicates that increases in selectivity are very difficult to achieve”*

The notion of where increased in selectivity are considered to be “very difficult” is subjective and STECF has previously interpreted this as a technical restriction where gears cannot be improved to become more selective. Based on purely technical grounds there are numerous ways in which gears or fishing tactics could be used to avoid unwanted fish but at a certain level, the changes in fishing practices are likely to lead to a significant reduction in their economic performance, either through lower catches and/or increased costs. STECF concluded that it is more likely to be the economic implications of improving selectivity (lower revenues and or higher costs) rather than a technical issue that leads to ‘difficulty’. On this basis STECF proposed that the ‘current revenue to break even revenue ratio economic balance indicator’, as currently used under the Balance and Capacity reporting requirements, could be used as an appropriate method to quantifiably demonstrate the economic consequences of changing selectivity.

EWG 15-05 notes that (i) there is no compulsion on Member States to use this approach and (ii) it is not always possible to apply such an approach due to lack of specific métier resolved economic data. Ultimately, it is the decision of managers to decide whether something is “very difficult” or not.

The second conditionality relates to “disproportionate costs of handling unwanted catches”. On first reading, it would appear that there is a requirement to identify what constitutes “disproportionate cost”. However, STECF interpreted that disproportionate costs are simply assumed to be already occurring and that the key aspect of the regulation is how to define when the unwanted catch is “below a certain percentage of the total catch of that gear”, how to set “the percentage unwanted” and how this should be implemented in a discard plan.

EWG 15-05 notes that several of the de minimis applications have focused on determining what additional costs would be incurred through (i) onboard sorting and handling of the catches; or (ii) costs associated with onshore disposal of unwanted catches. It is unclear to EWG 15-05 whether additional costs associated with onshore disposal is in line with the spirit of the regulation or whether it was the intention of the regulators to seek economic evidence regarding the additional costs of handling unwanted catch. EWG 15-05 further notes that the introduction of the landing obligation will undoubtedly result in the increased retention of unwanted catches which will increase for example onboard sorting and stowage times as well as necessitate expansion of onshore handling, processing or disposal provisions. This is likely to be a generic issue across all fisheries and in particular for those focused on multiple species, therefore, there aren’t obvious ways to define when this issue becomes “disproportionate” in a fishery compared to another one. If it is the intention of the regulators that “disproportionate costs” are the basis of this conditionality (Article 15.5(c)(i)) and that economic evidence is required to demonstrate this, then EWG 15-05 notes that the notion of “disproportionate costs” is subjective and that defining a single value or trigger point cannot be decided upon from a scientific perspective without additional guidance. EWG 15-05 considers that the decision to accept or reject an exemption proposal based on “disproportionate costs” is one for managers.

EWG 15-05 also notes that article 15.5(c)(ii) states that where continued discarding is permitted through the application of de minimis provisions, whilst these catches “*shall not be counted against the relevant quotas; however, all such catches shall be fully recorded*”. EWG 15-05 observers that no specific provisions have been included in the JR’s.

EWG 15-05 reiterates that when using the provisions of de minimis under Article 15, the requirements of Article 2 of the Common Fisheries Policy CFP) to fish at  $F_{MSY}$  can only be met if the de minimis discard quantities are deducted from the agreed catch opportunity (TAC) arising from  $F_{MSY}$  based

advice. If de minimis were operated as an addition to the  $F_{MSY}$  -advised catch, then mortality rates would be predicted to exceed the  $F_{MSY}$  target. Furthermore, depending on the way in which the de minimis quantity is calculated and applied (for example 5% of an aggregate catch of several stocks applied as a de minimis on one stock), the departure from  $F_{MSY}$  could be substantial. STECF 15-05 considers that the only relevant way is to apply the de minimis % to the total catch of the given species in the given fishery where the exemption is thought.

Research has shown that some discards survive. In some cases, the proportion of discarded fish that survive can be substantial, depending on the species, the characteristics of the vessels and other operational, biological and environmental factors. Article 15 paragraph 2(b) of the regulation allows for the possibility of exemptions from the landing obligation for species for which:

*"scientific evidence demonstrates high survival rates, taking into account the characteristics of the gear, of the fishing practices and of the ecosystem"*.

In the same way as what is "very difficult" and "disproportionate" in the de minimis exemptions cannot be scientifically defined, STECF concluded that the term "high survival" is subjective and defining a single value cannot be decided upon from a scientific perspective. The value will be based on "trade-offs" between the stock benefits of continued discarding and the potential removal of incentives to change exploitation pattern and how this contributes to the minimisation of waste and the elimination of discards. 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 and a portion of which are known to survive, this in effect increases fishing mortality and changes in exploitation pattern which may lead to reductions in fishing opportunities to maintain fishing mortality levels consistent with management objectives e.g.  $F_{MSY}$ . Conversely, if they are not included in the assessment, then the mortality is higher than estimated, even if part of the discards survive, and in this case, bringing everything to land would provide better control of fishing mortality. STECF considered that avoidance of unwanted catch should be the primary focus of such considerations and should also consider the potential benefits for other stocks and the broader ecosystem that would arise from changes in exploitation pattern. Therefore, the choice of survival levels/value(s) in the context of article 15.2(b) will depend on which objective (e.g. avoidance of waste; improve stock sustainability; improve financial viability) is set as priority.

Provided the methodologies employed are appropriate and the limitations of the results are fully explored, EWG 15-05 considers that the decision to accept or reject an exemption proposal based on the survival value presented is largely one for managers.

There are also a number of issues relating to captive survival experiments, where the discarded animals are kept in holding tanks or pens for observation. In effect the animals are protected from any predation that may have occurred during the discarding process for example due to scavenging seabirds or fish. While studies are limited, seabird predation has been estimated to be in the order of 9% for creel discarded *Nephrops* while recent underwater observations of discarded *Nephrops* has shown some degree of predation by scavenging/predatory fish (Jordan Feekings, unpublished data). In addition *Nephrops* populations are confined to mud habitat in which they form burrows. The survival of discarded *Nephrops* is also predicated on the fact that they (i) are discarded back onto a mud habitat and (ii) that they are able generate new burrows in order to escape potential predation. Combining these factors means that survival estimates obtained from captive experiments may overestimate both short and medium term survival and therefore managers may want to consider these factors when deciding upon approval of exemptions based on high survivability. To provide increased knowledge of long-term discard survival other scientific approaches such as tagging studies are needed. These studies are however costly and require long time to produce results. There are, for example, ongoing tagging studies with *Nephrops* in several countries, which will provide more insight with regards to

long-term discard survival the coming years, but at the moment captive experiments is the most commonly applied method for assessment of survivability and is the primary scientific basis for evaluation of exemption proposals based on high survivability.

EWG 15-05 note that it is difficult to provide conclusive advice on whether there is sufficient information presented that can be used to accept or reject any individual application based on the exemption provisions. The subjective nature of the conditionalities – “high survival”, “very difficult to achieve” or “disproportionate costs” means that there is a large element of judgement required in deciding on whether to permit or reject a proposal that cannot be based solely on scientific opinion of the evidence presented. EWG 15-05 has identified areas where it feels that there may be limitations in the information presented or the methodologies used and in some cases where there are clear inconsistencies, and some clarifications may be required. Where evidence is presented and shows that for example increasing selectivity results in losses of marketable fish, then this is noted, but whether this constitutes a technical difficulty is not something that can be readily answered by the EWG. Inevitably, improvements in selectivity result in some degree of loss, and therefore some reduction in revenue. However, these should be viewed in the broader context of medium term gains in stocks and in the absence of improvements in selectivity, would the fishery be worse off in comparison due to choke effects and utilization of quota for fish that have little or no value?

As noted above, the notion of what constitutes high survival is equally problematic, which is made more complex by the limited information available and the high variability in the available survival estimates. What is clear is that there are a wide range of factors that can affect survival and these are likely to be the primary cause of the high variability observed across the various studies. However, identifying and quantifying these is difficult due to the relatively limited species specific information and differences between experiments including timing, season, gear handling, observation period etc, etc. This means that passing judgment on the representativeness of individual or limited studies as an indicator of discard survival across an entire fishery is difficult given the range of factors that can influence survival and how they may vary in time even within a fishery. This raises a philosophical question on when is the information sufficient or not to make judgement on the representativeness of the results. It is easier to identify limitations that would preclude the use of a particular study, but much more difficult to determine when the evidence base is sufficient to make an informed and reasoned judgement. Similarly, it is also relatively simple to express a desire for additional information or experiments but much more difficult to state when the additional information or data is sufficient. Notwithstanding these issues, EWG 15-05 has attempted where possible to provide guidance to managers as to the appropriateness of the information presented as the basis of exemptions and where there are certain deficiencies. It has not however, provided advice on whether the conditionalities have been met or not.

### **3 EVALUATION OF REGIONAL DRAFT JOINT RECOMMENDATIONS**

#### **3.1 General Observations on the Joint Recommendations**

EWG 15-05 was asked by the Commission Focal Point for EWG 15-05 not to comment directly on the definition of fisheries included in the different JRs or on the timetable for inclusion of the different fisheries (ToR a). The EWG understands these have been discussed at length by the regional groups and the Advisory Councils with the Commission. EWG 15-05 has screened the fishery definitions included in the JRs for potential anomalies and has identified several trans-boundary issues where fisheries straddle different areas. These may create difficulties for managers and fishermen.

- Directed fisheries for saithe straddle the Northern North Sea and the West of Scotland but are only covered in the JR for the North Sea.
- In the North Western waters beam trawl fisheries in the Irish Sea are not included. Similarly fisheries in VIb including fisheries at Rockall are not covered.

- If a vessel fishes for hake in both North western waters and south western waters in a fishing trip then it will be subject to different catch thresholds.
- There are no directed longline fisheries for hake in the North Sea and in fact catches of hake by longlines are less than xx% so it is unclear why such fisheries are included.
- Vessels fishing in the Celtic Sea and Irish Sea on the same fishing trip will be subject to different provisions. (Haddock in VIIa, Whiting in VIIb-k, Sole in the Celtic Sea but not in the Irish Sea or West of Scotland).
- Hake in VIIabde and VIIc would be subject to different catch thresholds.
- Plaice are covered under the LO in IXa but there is no TAC and no reported catches of plaice in this area.

### 3.2 North Western Waters: Outline of Joint Recommendations

The Joint Recommendations for the North Western Waters covers species which define the highly mixed cod, haddock, whiting and saithe fisheries; *Nephrops* fisheries; mixed common sole and plaice fisheries; and hake fisheries in ICES Areas Vb (Union waters), VI and VII. It contains a survival exemption for *Nephrops* in pot fisheries in ICES Areas VIa and VII and seven de minimis exemptions. Three of these relate to whiting caught in demersal fisheries in the Celtic Sea (VIIb-k) and Channel (VIIId); two relate to sole fisheries with trammel and gillnets and beam trawls (VIIId,e,f,g) and two covering catches of *Nephrops* below mcrs in trawl fisheries in VI and VII.

### 3.3 De Minimis Exemption Proposals

Table 3.3-1 and Table 3.3-2 below details the de minimis exemptions proposed.

**Table 3.3-1 De minimis exemptions on the basis of improvements in selectivity being very difficult to achieve.**

Species	Fishery	% of DM catch requested in 2016	Species as Bycatch or target	Nbr vessels	Catch Tonnage for the species and fishery	Current Discard rate for the fishery	Review of selectivity options available	CR/BER analysis	measures ongoing (what and when)
Sole VIIde	Trammel gillnet	3%	Target/bycatch	175 french, >500 UK	?	Around 3%	1997 report (test of 84, 90 and 100 mm);	NA	Recent workshop has not identified obvious measures to be trialled
Whiting VIIde	TR2	7%	Mixed fishery (~10-15 species)	261 UK, ?? french		33% (NWW atlas for the Celtic Sea)	Change in catch rate (unwanted and commercial) for *Square mesh cylinder (80mm, 2m long) *semi rigid	No but impact of selectivity measures on revenue	*T90 codend trawl (80-90 mm); *90 mm trawl *100 mm trawl Preliminary results end of 2015

							grid + square mesh panel *articulated rigid grid + square mesh cylinder *articulated rigid grid		
Whiting VIIb-j	Bottom trawls >=100m (TR1)	7%	Mixed fishery (mainly gadoids, anglerfishes and megrims)	114 UK vessels Channel, 37 UK vessels Celtic Sea, ?? French vessels	?	20-23%	*Square mesh panel 120 mm in VIIfgj. *CELSELEC in Celtic Sea: (i) T90, (ii) 100mm square mesh cylinder, (iii) sorting grid for anglerfish * BIM trials in Celtic Sea: (i) 120 mm SMP, (ii) 120mm cod-ends	*SMP: Loss of 10% or less *CELSELEC: reduction whiting discards (T90-prelim. Results)	*Final results for CELSELEC end of 2015-beginning 2016 *Further BIM trials planned in 2015
Whiting VIIb-k (excl. d-e)	TR2 vessels with >25% gadoid landings	7	Mixed fishery	58Irish + 34 UK	?	33% (text taken from the Viide exemption text)	unclear how each selectivity device would impact discards of whiting & landings of commercial species *square mesh panels *SELTRA trawls *Swedish grids *increases in mesh size	No but recent economic indicators of fleets & impact of 2 scenarios on fleets revenue (unclear how scenarios were defined)	Unclear but "Further development [...] is required"
Nephrops VII	Trawls Seiners	7%	Target	?	?	20-30%	Several studies show difficulties	NA	Ongoing trials to improve selectivity (e.g. square mesh panel in codend)
Sole VIIdefg	TBB 80-119 with selective device	3%	Target	?	?	?	ILVO 2015, STECF PLEN 15-01	?	Gear developed in 2015 and newly implemented



**Table 3.3-2 De minimis exemptions on the basis of disproportionate costs.**

Species	Fishery	% of DM catch requested in 2016	Specis as Bycatch or target	Nbr vessels	Catch Tonnage for the species and fishery	Percentage of that unwanted to total catch of the fishery	Current Discard rate for the fishery	Cause and estimation of dispr. costs	Measures ongoing (what and when)
<i>Nephrops</i> VIa	Ottertrawls	7%	Target	117 scottish	11607 tonnes landed (5 yrs average)	?	?	Undersized <i>Nephrops</i> need to be disposed. Costs include onshore storage, transportation to a disposal site, and the actual disposal. Example of costs using 5% discards under assumption disposal each month result in 34% decrease of average net profit. Is considered disproportionate	Projects underway for disposal and selectivity
Whiting VIIb-j	Bottom trawls >=100mm (TR1)	7%	Mixed fishery (mainly gadoids, anglerfishes and megrims)	114 UK vessels Channel, 37 UK vessels Celtic Sea, ?? French vessels	?	?	20-23%	Increase in labour time, legal storage capacity on board, logistics of collecting unwanted catches and onshore processing. Some numbers are given for different costs.	Several scientific projects currently ongoing for mixed French fishery to assess economic impacts at vessel and fleet levels
Whiting VIIde	TR2	7%	Mixed fishery (~10-15 species)	261 UK, ?? french	?	?	33% (text taken from the Viide exemption text)	Sorting and storing (no estimates); Limited storage onboard	Increase selectivity

3.3.1 *De minimis exemption request for the vessels using nets to catch sole in the Channel and Celtic Sea (ICES areas VIId, e, f and g).*

**Background**

The JR states that “A *de minimis* exemption of 3% is requested for common sole (*Solea solea*) of the total annual catches of this species by vessels using net gears (gear codes GNS, GN, GND, GNC, GTN, GTR) in the Channel (VIId and e) and the Celtic Sea (f and g) for 2016, 2017 and 2018. This exemption could be modified and completed by new elements in the near future according to the species subject to the landing obligation in this fishery in 2017 and 2018. “

The exemption is requested on the basis of selectivity, but some additional considerations on disproportionate costs of disposal are also given in the annex.

**EWG 15-05 Observations**

The JR relates to 175 French and approximately 500 vessels from the UK. The overall catch of these fleet segments is not indicated in the JR, but according to the NWW and NS discards atlas, gill- and trammel nets fisheries in VIId are estimated to have low discards for sole (1%). No data is presented in the NWW discard atlas for VIIe, f and g. Most catches come from a targeted fishery with discards rates varying between 0 and 3%. Sole bycatch in the non-targeted net fisheries are minimal. Although the sole discards rate in these fisheries are slightly higher (around 10%), but cumulatively represent a low tonnage. These discard rates are in line with the latest value used in ICES InterCatch, which indicate a discard tonnage around 35 tonnes of sole (<2% discards ratio) in the Eastern Channel for all gill and trammel nets in 2014.

A *de minimis* is requested on the basis that selectivity is very difficult to improve for sole using this gear. Justification is given with reference to selectivity trials from 1997 (IFREMER, 1997), which showed that nets above 100 mm catch very low amount of sole below the MCRS at 24 cm, but that catches of valuable size just above MCRS were significantly reduced. The fishery is already operating with a mix of 90 to 100 mm mesh, so additional mesh size increases would likely lead to economic losses. A workshop was held recently with gillnetters in the Bay of Biscay, but no obvious measures improving selectivity were identified.

EWG 15-05 notes that costs of handling and sorting *onboard* as such can likely not be considered disproportionate, as fish are unmeshed one by one, so the additional costs of keeping the undersize sole onboard rather than discarding overboard are likely limited. Additional costs are though likely to occur for disposing of fish *at land* when the unwanted catches are to be stored, collected and used in dedicated outlets, but EWG 15-05 notes that this issue is at present generic to most types of species, fleets and area. Therefore, such additional costs should not be considered in isolation for a specific fishery (as is advocated here for undersize sole taken in gill and trammel nets), but they should be considered at the scale of the entire harbour or coastal area.

In summary, EWG 15-05 acknowledges that additional selectivity improvements through increases in mesh size are problematic to achieve without incurring losses of marketable sole although the potential scale of these losses have not been quantified in the Joint Recommendation. EWG 15-05 considers that there is sufficient evidence provided to support this view but EWG 15-05 is unable to determine whether these are indeed very difficult to attain or not. The *de minimis* will lead to a status-quo in discard rates for this low-discards fishery, since the percentage requested is at or above the actual discards under current recruitment level therefore there would be no incentive to reduce discards.

### 3.3.2 *De minimis exemption request for the vessels using bottom trawls < 100 mm (TR2) in the Channel (ICES area VIIde).*

#### **Background**

The JR notes that “A *de minimis* exemption of 7% is requested for whiting (*Merlangius merlangus*) based on total annual catches of this species by vessels using TR2 (<100mm) bottom trawls and seines (OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT, PT, TX) to target gadoids (e.g. cod, haddock, whiting) in the Channel (VIIde). The 7% *de minimis* rate should apply for 2016 and 2017, and reduced to 6% for 2018. This exemption could be modified and completed by new elements in the near future according to the species subject to the landing obligation in this fishery in 2017 and 2018.”

The *de minimis* is requested on the basis that selectivity is very difficult to improve without losing large parts of commercial landings and on the disproportionate costs of handling and sorting.

#### **EWG 15-05 Observations**

According to the NWW discards atlas, TR2 in the Celtic Sea fisheries have high discard rates for whiting of around 32%, much higher than the 7% asked and have average (2010-2012) landings of

2,969 t and 1,491t of discards. TR2 vessels operating in VIId tend to have lower discards (7%) with average landings of 4,842 t and 337t of discards. The fishery is mainly characterized by a mixed fishery targeting anglerfish, gadoid species and non-quota species (cuttlefish and squid). This fishery also has high discards for cod (49%), haddock (47%) and plaice (39%).

EWG 15-05 notes that the number of vessels that will be obliged under the LO to land all catches of whiting is unclear. The LO only applies to vessels for which “total landings per vessel of all species in 2013 and 2014 consist of more than 25% of the following gadoids; cod, haddock, whiting and saithe combined”. EWG 15-05 notes that the UK fleet operating in the channel comprises of 261 vessels, but that this relates to *all* vessels using the associated gear codes and not the number of vessels using TR2 gear with historic landings above the 25% threshold. No information on the size of the French fleet is provided. It is therefore not possible to ascertain how many vessels the de minimis would apply to.

Furthermore, the volume of unwanted catch or discard rates for the fleet segment falling under the LO (i.e. >25% gadoids) is not provided. It is therefore not possible to estimate the potential volume of discards that would be covered by the de-minimis provisions. The wording of the request in the JR is unclear. Presently it states that: “*A maximum of 7% for years one (2016) and two (2017), and 6% for year three (2018) for whiting of the total annual catches of this species by vessels using bottom trawls < 100 mm to catch whiting in the Channel (ICES Area VIId and e)*” EWG 15-05 notes that the de minimis should only apply to, and therefore be derived from an estimate of catches of whiting associated with only those vessels that are obliged to land all whiting (e.g. above the 25% threshold) and not to all vessels using otter trawls with mesh sizes <100mm as currently stated.

The justification on the basis of improvements in selectivity being difficult to achieve refers to the fact that an increase of mesh-size  $\geq 100$ mm is difficult because (i) effort ceilings associated with the Long Term Management Plan for Cod (Council Regulation (EC) no 1342/2008) applicable in ICES Division VIId limit the available effort in the TR1 group and given that the TR1 segment has a higher cod LPUE, any transfer of effort from TR2 to TR1 will incur a transfer penalty. Based on STECF 14-20, only 44% of the effort transferred from TR2 to TR1 could be retained (applicable only in VIId) and (ii) according to several studies testing a variety of selectivity devices carried out by France (SELECAB , SELECFISH , SELECMER , FMC-NS and SAUPLIMOR) which showed the following

- square mesh cylinder would be efficient to reduce unwanted catch (-59% to -22% whiting) but would also lead to a loss of revenue up to 16%
- semi rigid grid + square mesh panel would reduce unwanted catch by 21% to 56% and revenue by 31% to 36%
- articulated rigid grid + square mesh panel would reduce unwanted catch by 78% and revenue by 35%
- articulated rigid grid reduce unwanted catch (-67% whiting) but would also lead to a loss of commercial size whiting of 49%

The fishery is currently operating with a mainly of 80 mm mesh, and additional selectivity devices (T90, 90mm mesh and 100mm mesh) are being tested. Preliminary results will be available by the end of 2015.

Additional costs associated with the handling, sorting and limited storage space onboard are identified as issues in the JR and qualitative and quantitative assessments of the potential scale of the issue are included, although as the volume of unwanted catch has not been provided it is not possible to determine the absolute levels that would be involved. EWG 15-05 notes that even with a 7% exemption, at the current discard rate of 32%, 25% of the catch will still be unwanted and will have to be sorted, handled and stored onboard. Additional costs are also likely to occur for disposing of fish at land when the unwanted catches are to be stored, collected and used in dedicated outlets, but EWG 15-05 notes that this issue is likely generic to all types of species and fleets. Therefore, such additional

costs should not be considered in isolation for a specific fishery, but considered at the scale of the entire harbour or coastal area.

EWG 15-05 notes that the volume of catch associated with the fleet segment covered by the LO is unspecified and EWG 15-05 could not estimate the current discard levels and resultant potential de minimis volume without appropriately disaggregated catch data. It is therefore not possible for EWG 15-05 to assess what the potential catch volumes associated with the de minimis would be. EWG 15-05 notes that the method of determining how the 7% de-minimis catch volume will be estimated is not included and it is unclear whether this will be based on the catch of the vessels obliged to land whiting (and not the total catch of TR2). EWG 15-05 considers that this should be clarified. EWG 15-05 notes that the transition from the current discard rate (32%) to the 7% (de minimis level) will be challenging without significant improvements in selectivity EWG 15-05 noted that selectivity trials are currently ongoing and that the results from these should be considered as a means to reduce discards. EWG 15-05 notes that even with a de-minimis exemption there will still be a requirement to reduce discards further and the costs incurred by the rest of the unwanted catch that will be landed and counted against quota may provide incentive to increase selectivity in the short-term. EWG 15-05 therefore considers that the assertion that it is difficult to improve selectivity in the short term without incurring loss of marketable catch is supported by the information provided. However, EWG 15-05 is unable to determine whether this is indeed “very difficult” to attain or not.

### 3.3.3 *De minimis exemption request for the vessels using bottom trawls $\geq 100$ mm in the Celtic Sea and the Channel (ICES areas VIIb-j).*

#### **Background**

The JR notes that “A *de minimis exemption of 7% is requested for whiting (Merlangius merlangus) of the total annual catches of this species by vessels using bottom trawl gears with a mesh size equal or larger to 100 mm (gear codes : OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV ) to target gadoids in the Celtic Sea (VIIb,c,f,g,h,i,j) and the Channel (VII d,e). The de minimis rate of 7% should apply for 2016 and 2017, and reduced to 6% for 2018. This exemption could be modified and completed by new elements in the near future according to the species subject to the landing obligation in this fishery in 2017 and 2018.*”

The de minimis is requested on the basis that that it is very difficult to improve selectivity, with additional information outlining disproportionate costs of handling unwanted catches.

#### **EWG 15-05 Observations**

According to the NWW discards atlas, TR1 fisheries have high discard rates for whiting of around 20%, much higher than the 7% asked and have average (2010-2012) landings of 5,494 t and 1,395t of discards. The fishery is mainly characterized as a mixed species fishery mainly targeting ‘gadoid’ species, such as haddock, cod, whiting anglerfishes, megrims and hake. This gear group also has high discards for cod (27%) and haddock (44%).

EWG 15-05 notes that only part of the TR1 fleet falls within the scope of the LO (i.e. only TR1 vessels exceeding the 25% threshold). The volume unwanted catch or discard rates for the fleet segment falling under the LO or the resultant de-minimis volume is not provided, it is therefore not possible for EWG 15-05 to estimate the potential volume of discards included in the de-minimis as it has no access to individual vessel data on catch composition, this would need to be provided in the JR. Furthermore, the wording of the request in the JR is unclear. Presently it states that: “*A maximum of 7% for years one (2016) and two (2017), and 6% for year three (2018) for whiting of the total annual catches of this species for the vessels using bottom trawls  $\geq 100$  mm in the Celtic Sea and the Channel (ICES areas VIIb-j).*” EWG 15-05 notes that the de minimis should only apply to, and therefore be derived

from an estimate of catches of whiting associated with those vessels that are obliged to land all whiting (e.g. above the 25% threshold) and not to all vessels using otter trawls with mesh sizes  $\geq 100$ mm as currently stated.

The JR includes a description of the fishery and its activity. The TR1 fishery is a mixed fishery mainly targeting gadoid species, anglerfishes and megrim. On average 20% of the whiting catches are discarded, which may vary according to the fleet segment. Discards are mainly due to market constraints and minimum landing size. Since 2000 vessels use 100 mm diamond mesh size in the codend together with a 100mm square mesh panel. In 2015 mesh size of the square mesh panel (SMP) was increased to 120 mm in VII f,g,j although vessels with at least 55% whiting in a given trip may continue to deploy a 100mm square mesh panel. Recently, several studies have been tested selectivity device in these fisheries. The square mesh panel 120 mm has been introduced in the fleet operating in the Celtic Sea in 2015. Assuming adequate implementation, this is expected to result in a reduction of discards of about 25% of all gadoids (STECF PLEN 14-03). For whiting, the current proportion of discards is 23% (20% according to the discards atlas), which is expected to be reduced by 11% following the introduction of the measures.

The French study CELSELEC to improve selectivity for trawlers in Celtic Sea has been operating since June 2014. Three selective devices are being tested: (i) T90 mesh in codend, (ii) 100 mm square mesh cylinder, and (iii) sorting grid for anglerfish. Preliminary results show improvement of selectivity, especially for T90 which reduce discards by 65% on average. Escapement is high for haddock juveniles, whiting, horse mackerel and boarfish. The final results are expected by the end of 2015 or beginning 2016.

The JR states that selectivity should efficiently improve over the next years through the adoption of new measures into the fisheries. However, time is needed to evaluate the effective results of these selective measures recently adopted (SMP 120 mm) and others that may follow from the selectivity projects at fleet level.

Increases in labour time, storage capacity on board, logistics of collecting unwanted catches and onshore processing will result in costs. The JR states such costs are considered to be disproportionate compared to the valorisation which could be made of the unwanted catches to be landed. The JR provides estimates of potential costs associated with the landing obligation relating to profit for fishmeal, storage discards, transport discards, ensiling and digestion of the discards.

Additional costs *on board* and *at land* are not documented directly but likely to be significant. However, the EWG notes that additional costs *at land* are likely generic to all types of species and fleets. Therefore, such additional costs should not be considered in isolation for a specific fishery, but they should be considered at the scale of the entire harbour or coastal area.

Several scientific projects are currently ongoing for the mixed fishery in France which will try to assess the economic impacts of the landings obligation at vessel and fleet levels. Two H2020 research should also bring some elements on these subjects in several years.

EWG 15-05 notes that the volume of discard is unspecified and EWG 15-05 was therefore unable to estimate the current discard levels and resultant de minimis volume without individual data. It is therefore not possible for EWG 15-05 to assess what the potential catch volumes associated with the de minimis would be. EWG 15-05 understands that the exemption is requested on a temporary basis, in order to have some time to finish the trials and implement the best solutions. EWG 15-05 notes that the basis for the requested exemption is not *sensu stricto* that selectivity is difficult to improve, since many trials are ongoing and preliminary results are promising. EWG 15-05 acknowledges, however, that these have not yet been fully implemented into the fishery and that there is still a significant transition needed from the current discard rate (around 20%) to the 7% exemption. EWG 15-05 notes that even with a de-minimis exemption there will still be a requirement to reduce discards further and depending on the costs incurred by the rest of the unwanted catch that will be landed may provide

incentives to increase selectivity in the short-term. EWG 15-05 therefore considers that the assertion that it is problematic to improve selectivity in the short term without incurring losses of marketable fish is supported by the information provided. However, EWG 15-05 is unable to determine whether this is indeed “very difficult” to attain or not. EWG 15-05 notes the promising results from the ongoing selectivity trials and considers that these should be implemented as quickly as practically possible.

### 3.3.4 *De Minimis proposal for TR2 vessels targeting mixed demersal finfish in the Celtic Sea*

#### **Background**

The JR states that: “A *de minimis* exemption of 7% is requested for the whiting (*Merlangius merlangus*) of the total annual catches of this species by vessels using bottom trawl gears with a mesh less than 100 mm (gear codes : OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT, PT, TX) to target gadoids in the Celtic Sea (ICES Area VII (excluding VIIa, d and e). The 7% *de minimis* rate will apply for 2016 and 2017, be reduced to 6% for 2018. This exemption could be modified and completed by new elements in the near future according to the species subject to the landing obligation in this fishery in 2017 and 2018.”

The basis of the *de minimis* exemption is based on technical difficulty in improving selectivity of whiting below the MCRS (Minimum Conservation Reference Size) is sought. This is due to potential losses on other target species in a highly complex multi-species fishery. Improvements in selectivity using existing means such as increases in mesh size are considered unachievable without significant economic impact.

#### **STECF Observations**

The Irish fleet can be separated following the main target species: overall 146 vessels fishing in the Celtic Sea, 88 fishing mainly on *Nephrops* (>30%) and the remaining 58 belong to a mixed finfish fishery (>25% gadoids). 18 vessels fish more than 30% *Nephrops* and 25% gadoids and will, therefore, fall under the LO for *Nephrops* and whiting. The 34 vessels of the UK fleet will be concerned by the LO for whiting.

The JR gives further information on the catch composition of the fleet to show the high diversity of species and the importance of single species for the revenue of that part of the fleet. However, there is no information on the total annual catch, the total unwanted catch or the discard rates. According to the NWW discards atlas, TR2 fisheries in the Celtic Sea have high discards for whiting of around 33%, much higher than the 7% asked. Most catches come from a mixed fishery with the main target species being non-quota species. This fishery also has high discards for cod (49%), haddock (47%) and plaice (38%). The total tonnage of whiting discards in this fishery is not provided.

STECF noted that the ICES InterCatch database has estimated whiting discards ratio around 26-28% both for the *Nephrops* and the finfish metier in 2014 (approx. 200 and 600 tonnes discarded respectively).

Furthermore, the wording of the request in the JR is unclear. Presently it states that: “A *de minimis* exemption of 7% is requested for the whiting (*Merlangius merlangus*) of the total annual catches of this species by vessels using bottom trawl gears with a mesh less than 100 mm (gear codes : OTB, SSC, OTT, PTB, SDN, SPR, TBN, TBS, TB, SX, SV, OT, PT, TX) to target gadoids in the Celtic Sea (ICES Area VII (excluding VIIa, d and e).” EWG 15-05 notes that the *de minimis* should only apply to, and therefore be derived from an estimate of catches of whiting associated with those vessels that are obliged to land all whiting (e.g. above the 25% threshold) and not to all vessels using otter trawls with mesh sizes less than 100mm as currently stated.

There are a number of technical measures that can be applied in the TR2 *Nephrops* fishery including square mesh panels, SELTRA trawls, Swedish grids and increases in mesh size. Although it is noted that some of these methods would be able to eliminate at least the larger undersized fish, there is no indication that those selective devices are currently being tested or will be adopted in the fishery. EWG 15-05 notes that it is mandatory for TR2 vessels to be equipped with a square mesh panel, but the effectiveness of this is unknown and given the current discard levels, it is likely that further improvements in selectivity are warranted.

The proposed exemption is linked to the expected loss of commercial catch of other species with improvements in selectivity. While there is a clear need to develop measures that are appropriate for highly-mixed fisheries is clearly stated but no specific information on current research is identified.

The JR fails to provide quantitative estimates of the potential impacts associated with improvements in selectivity would have on whiting bycatches below MCRS and how that would affect the commercial species. Therefore, there is no quantification on possible losses using a more selective gear.

Due to the lack of economic data on metier level (economic data is on fleet segment level and not disaggregated to the metier level) a calculation of the CR/BER in case of technical changes was not possible. To give an indication of possible economic losses, two scenarios of reduction in *Nephrops* landings by 20% and 10% of *Nephrops*, sole, megrim and whiting associated with improvements in selectivity are presented. This would lead to losses of revenue of 20% and 10% respectively.

As a quantitative selectivity analysis was not provided, but EWG 15-05 notes the general paucity in selectivity data for the broad range of species concerned. The JR includes actual information on the economic performance of this fleet following the data in the annual economic report. The fleet is in an already weak position and it is argued that any further reductions in marketable catch (revenue) that may arise due to improvements in selectivity would not be economically sustainable given the recent trends in economic indicators. EWG 15-0 notes that even with a 7% exemption, at the current discard rate of around 28%, the remaining 21% of unwanted catch would have to be landed and it is unclear how the fleet could cope with the increased costs and reduction in revenue associated with catches of TAC species <MCRS.

EWG 15-05 notes that the volume of catch is unspecified and EWG 15-05 could not estimate the current discard levels and resultant de minimis volume without appropriately disaggregated catch data. It is therefore not possible for EWG 15-05 to assess what the potential catch volumes associated with the de minimis would be. EWG 15-05 notes that the method of determining how the 7% de-minimis catch volume will be estimated is not included and it is unclear whether this will be based on the catch of the vessels obliged to land whiting (and not the total catch of TR2). EWG 15-05 considers that this should be clarified. EWG 15-05 note the absence of landings and discard data by species and the lack of selectivity data. Given the lack of selectivity information the JR presents two hypothetical quantitative scenarios. However, it is unclear how representative the two economic scenarios are, so it is not possible to judge if they are representative for the whole fishery and the lack of selectivity data prevents a quantitative assessment of the potential losses of different technical options and it is therefore not possible to assess whether it is very difficult to reduce discards without incurring losses of marketable fish or the potential scale of these losses.

EWG 15-05 notes that the transition from the current discard rate (28%) to the 7% (de minimis level) will be challenging without significant improvements in selectivity EWG 15-05 noted that selectivity trials are currently ongoing and that the results from these should be considered as a means to reduce discards. EWG 15-05 notes that even with a de-minimis exemption there will still be a requirement to reduce discards further and the costs incurred by the rest of the unwanted catch that will be landed and counted against quota may provide incentives to increase selectivity in the short-term. Furthermore, EWG 15-05 notes that the issues identified in this proposal for a de minimis exemption is to a large extent similar to the request in section 3.3.2(TR2 in the Channel), so these two exemptions could be considered together.

### 3.3.5 Presentation of evidence in support of a 7% De minimis for *Nephrops* in Western Waters (ICES area VII) – Technical and economic difficulties in reducing unwanted *Nephrops* catches.

#### Background

The JR notes that “A *de minimis* exemption of 7% is requested for Norway lobster (*Nephrops*) of the total annual catches of this species by all vessels obliged to land Norway lobster (*Nephrops*) in ICES Division VII. The *de minimis* rate of 7% will apply for 2016 and 2017, and be reduced to 6% for 2018. This exemption could be modified and completed by new elements in the near future according to the species subject to the landing obligation in this fishery in 2017 and 2018.”

The *de minimis* is requested on the basis of technical and economic difficulties in reducing unwanted catch.

#### EWG 15-05 Observations

The JR requests a *de minimis* exemption to discard *Nephrops* in ICES Area VII is primarily

EWG 15-05 notes that the gear group to which this *de minimis* proposal applies to is not clearly distinguished in the Joint Recommendation as it only refers to “vessels obliged to land Norway lobster” whereas the annex refers only to vessels using trawls and seines, implying that pots, traps and creels are not to be considered as part of the *de minimis*. EWG 15-05 suggests that this is clarified as it may be important when estimating the volume of *Nephrops* associated with the *de minimis* exemption.

EWG 15-05 notes that the technical annex to the JR states that the *de minimis* relates specifically to otter trawlers targeting *Nephrops*. EWG 15-05 notes that there is limited information provided on the number of vessels involved and the catch/landings of species in this fishery. Section 3.3.4 notes that there are 88 Irish vessels operating in the Celtic Sea (average 2012-2014) where landings >30%, no other data are available for other fleets. The discard atlas for the NWW fisheries (Catchpole & Ribeiro Santos 2014) includes average landings of *Nephrops* for 2010-2012 of 6,053 t and no information on the amount of discards. The overall quota was 24,489 t in area VII. EWG 15-05 notes that ICES (2014) estimates *Nephrops* discards (across all functional units in area VII) in the order of 2,953 t but notes that this is highly variable across functional units and also includes substantial discards of *Nephrops* >MLS.

EWG 15-05 notes that in area VII discard rates of 20-30% of small *Nephrops* under the MCRS are estimated. Applying this to the average landings 2010-2012 would lead to discards between 1,210 to 1,815 t. With current gear designs e.g. diamond mesh, it is argued that improvements in selectivity are not possible without losing a significant (15-20%) quantities of marketable catch. Results from selectivity studies are included which provide the necessary information to support the argument that there are technical and economic difficulties in reducing unwanted catches.

The JR requests, therefore, a maximum of 7% discard rate for *Nephrops* for years one (2016) and two (2017), and 6% for year three (2018). Assuming status quo catch levels, this would lead to discards in the order of 424 t in 2016/2017 and 363 t in 2018.

The overall bycatch rates in this fishery are estimated between 20-30%. An exemption of 7% results still in the necessity to land now a large part of the undersized *Nephrops*. Therefore, there will be an incentive to reduce unwanted catches which may lead to lower bycatch rates in the future (e.g. improvements in selectivity or different fishing patterns).

The JR does not provide economic estimates to support the argument of economic difficulties. It is argued that fleet data is provided on fleet segment level but for a calculation of the break even revenue would need a disaggregation of the data which is not available.



EWG 15-05 notes that it is unclear whether the de minimis relates only to trawls and seines or whether it extends to all gear types in the fishery. The volume of catch is unspecified and EWG 15-05 could not estimate the current discard levels and resultant de minimis volume without appropriately disaggregated catch data. It is therefore not possible for EWG 15-05 to assess what the potential catch volumes associated with the de minimis would be. EWG 15-05 notes that the method of determining how the 7% de-minimis catch volume will be estimated is not included and it is unclear whether this will be based on the catch of the vessels using trawls and seines or catches of all gears. EWG 15-05 considers that this should be clarified.

EWG 15-05 notes that the transition from the current discard rate (20-30%) to the 7% (de minimis level) will be challenging without significant improvements in selectivity. EWG 15-05 notes that even with a de-minimis exemption there will still be a requirement to reduce discards further and the costs incurred by the rest of the unwanted catch that will be landed may provide incentives to increase selectivity in the short-term. EWG 15-05 therefore considers that the assertion that it is problematic to improve selectivity in the short term without incurring losses of marketable fish is supported by the information provided. However, EWG 15-05 is unable to determine whether this is indeed “very difficult” to attain or not.

### 3.3.6 *Application for a ‘De Minimis’ exemption for undersized Nephrops in the West of Scotland Fishery*

#### **Background**

The JR notes that “A *de minimis* exemption of 7% is requested for Norway lobster (*Nephrops*) of the total annual catches of this species by all vessels obliged to land Norway lobster (*Nephrops*) in ICES Area VIa. The 7% *de minimis* rate of 7% will apply for 2016 and 2017, and be reduced to 6% for 2018. This exemption could be modified and completed by new elements in the near future according to the species subject to the landing obligation in this fishery in 2017 and 2018.”

The de minimis is requested based on disproportionate costs associated with disposing of catches below the MCRS (Minimum Conservation Reference Size).

#### **EWG 15-05 Observations**

EWG 15-05 notes that the gear group to which this de minimis proposal applies to is not clearly distinguished in the Joint Recommendation as it only refers to “*vessels obliged to land Norway lobster*” whereas the annex refers only to vessels using trawls and seines, implying that pots, traps and creels are not to be considered as part of the de minimis. EWG 15-05 suggests that this is clarified as it may be important when estimating the volume of *Nephrops* associated with the de minimis exemption.

EWG 15-05 notes that the JR only reports average landings over the last 5 years. As total catches and discard percentage are not given in the JR, it is not possible to estimate the volume of this exemption based on the JR. And it is therefore unclear what the requested 7% de minimis volume is to be based, and to which fleet segments it will apply to..

Based on length composition data available to ICES the EWG calculated the discard percentage of undersized *Nephrops* for the period 2011-2014 by Functional Unit (FU) and the three Functional Units combined: 0.14% in FU 11, 0.17% in FU 12, 0.93% in FU 13, 0.55% in three FU combined. Based on the total average catches for the period 2011-2014 of this fleet available to ICES (i.e. 12111 tonnes) the requested de minimis of 7% would result in a total volume of 848 tonnes.

The 7% de minimis request exceeds the overall West Coast discard rate (0.55%). This is intended to provide headroom in the early days of implementing the landing obligation while the processes of monitoring and compliance become established. Clearly, if control processes applied a global (0.55%) de minimis on a local trip basis (or other short timescale) in restricted inshore areas, then individual vessels would likely exceed the limit. The de minimis request is made for a temporary period, and it should be possible to adjust the 6% figure downwards once the control processes establish the mechanism for accounting the overall figure, stakeholders become familiar with its operation and expected improvements in selectivity begin to be implemented.

The JR states that 117 United Kingdom (Scottish based) vessels target *Nephrops* in the west of Scotland trawl fishery fishing in Functional Units 11, 12 and 13.

The JR notes that under the landing obligation, catches of undersized *Nephrops* will need to be disposed as there is little alternative use for undersized *Nephrops*. This will result in additional costs. Costs include onshore storage, transportation to a disposal site, and the actual disposal. By providing an example the JR argues that the associated costs will be disproportionate for the fishery.

The JR gives an example of costs using a 5% discard rate. The example assumes that disposal needs to occur each month. This will result in a 34% decrease in the average net profit which is considered disproportionate by the JR. The EWG questions why disposal needs to occur each month as based on the numbers given in the example this influences the costs.

EWG 15-05 notes that the arguments regarding disproportionate costs are supported by reasoned quantitative information on the expected additional costs associated with the disposal of such unwanted catches. EWG 15-05 considers that the information provided in JR, and in particular the economic assessment based on a hypothesis of discard fraction of *Nephrops* for the UK fleet, provides a robust economic analysis of the potential additional costs which represent 34% of the average net profit for vessels in the fishery. EWG 15-05 cannot conclude whether this constitutes “disproportionate costs”. However EWG 15-05 notes that the additional costs of disposal are significant.

### 3.3.7 *De minimis exemption for fishing vessels using a gear with increased selectivity in a directed fisheries for sole in the Channel (VIIde) and the Celtic Sea (VIIfg) and to avoid disproportionate costs*

#### **Background**

The JR notes that “A *de minimis* exemption of 3% is requested for common sole of the total annual catches of this species by all vessels using selective beam trawls in the Channel (ICES Areas VIId and e) and the Celtic Sea (VIIf and g). This exemption could be modified and completed by new elements in the near future according to the species subject to the landing obligation in this fishery in 2017 and 2018.”

The de minimis request is based primarily on disproportionate costs.

#### **EWG 15-05 Observations**

Belgium has committed to reduce catches of small sole in the beam trawl fishery. A large mesh size (120mm) extension has been made compulsory for Belgian beam trawlers fishing with 80-119 mm for sole VIIadfg since the 1<sup>st</sup> April 2015. This extension is thought to potentially reduce significantly the catches of undersize sole (STECF PLEN 15-01). Therefore a 3% de minimis exemption is sought, on the basis that selectivity has already been increased recently and that additional improvements cannot be achieved without significant economic losses.

There is no additional analysis presented. It is not clarified whether the entire fleet has already implemented the required device, and whether this device is used in the Western Channel (VIIe) even though that area is not included in the 2015 Commitment. There is no information collected on whether discards rate have effectively been reduced since the introduction of the new gear, nor on the basis for the 3% request.

It cannot be ascertained from the JR whether better selectivity, beyond those introduced in April 2015, could be achieved, but the analyses performed for the same fishery TBB 80-119 mm in the North Sea (see PLEN 15-01 for further details) points out that there are no obvious alternatives.

EWG 15-05 considers that the JR does not provide sufficient information on which to base an evaluation. There is no information on the number of vessels involved in the fishery or on the overall catch volume of these vessels. As the catch is unspecified, EWG 15-05 could not estimate the current discard levels and resultant de minimis volume without appropriately disaggregated catch data. It is therefore not possible for EWG 15-05 to assess what the potential catch volumes associated with the de minimis would be. EWG 15-05 acknowledges that measures are currently being taken to improve selectivity at the scale of the whole fleet. However, EWG 15-05 cannot evaluate the effects of these measures nor can it determine whether it is technically difficult to achieve selectivity beyond the recently introduced measures. EWG 15-05 notes that the newly introduced measures are predicted to reduce catches of undersize sole by 40.3%, but at the expense of a 16% reduction in marketable sole. EWG 15-05 notes that data from the discard sampling programme would be beneficial in assessing the potential impact of the new introduced technical measures. EWG 15-05 suggests that additional information is required which documents the actual uptake and use of these measures and the catches associated with the fleet segment.

### 3.4 North Western Waters: Proposals for Exemptions on High Survivability

#### 3.4.1 *Nephrops* caught using pots – ICES areas VIa and VII

##### **Background**

In the context of the landing obligation for the demersal fisheries in the North Western Waters, a high survivability exemption is requested for Norway Lobster (*Nephrops*) caught by Pots, Traps or Creels in ICES Areas VIa and VII

##### **EWG 15-05 Observations**

The justification for high survivability is based on studies undertaken in the West of Scotland , Southern Portugal, Skagerrak and the Bay of Biscay. EWG 15-05 notes that additional recent trials undertaken in the Skagerrak have also been undertaken and these have demonstrated captive survival rates of 98% (see section 3.7.1). The results are largely consistent across all trials showing that captive survival rates greater than 80% in all cases.

As noted by STECF previously, captive experiments may overestimate true survival as the effects of post discard predation and longer term mortalities are not considered in such studies. EWG 15-05 notes that the JR makes reference to both short term predation mortality and longer term survival and note a study (Adey, 2007) which quantified predation by seabirds to be in the order of 8.6% but that this has not been considered in the survival rates presented. EWG 15-05 note that there is anecdotal evidence presented that some vessels are equipped with sub-surface release tubes (1m below surface) to mitigate the effects of post discard seabird predation. EWG 15-05 considers that the application of such mitigation measures should be promoted across the entire fleet should the exemption be granted. EWG 15-05 notes that there are a number of ongoing studies aimed at quantifying sub-surface predation of *Nephrops* but while some degree of predation has been observed in some cases, it is not possible to quantify the extent of this phenomenon. EWG 15-05 cannot quantify how significant these localised post escape effects may be in practice.

EWG 15-05 notes that the results presented indicate that captive survival rates of >80%. EWG 15-05 cannot quantify the potential post discard predation mortality which may reduce this survival rate. EWG 15-05 cannot conclude whether this necessarily constitutes high survivability but notes that the estimates presented are at the upper end of survivability studies using captive methods.

### 3.5 North Sea: Overview of Provisions

The Joint Recommendations for the North Sea covers species which define the fisheries for cod, haddock, whiting and saithe; *Nephrops*, common sole and plaice; hake and Northern prawn in Union waters of ICES Areas IIa, IIIa and IV. It includes three Survival exemptions for *Nephrops* trawl fisheries in the Skagerrak and North Sea using selective gears and for pot fisheries in the same areas. It also includes five de minimis exemptions. Three of these relate to sole fisheries with beam trawls and trammel nets and gillnets. One de minimis exemption applies to *Nephrops* below MCRS in The North Sea and one exemption related to fish bycatch in the *Nephrops* fishery in the Skagerrak. The joint recommendation also included a request to harmonise the MCRS for *Nephrops* in the Skagerrak with the North Sea; and specific technical measures to allow the use of selective gears in the demersal fisheries in the Skagerrak. The Joint Recommendations will be subject to review in 2017 and 2018.

A summary of the de minimis applications are given in Table 3.5-1 and Table 3.5-2

**Table 3.5-1 De minimis exemptions on the basis of improvements in selectivity being very difficult to achieve.**

Species	Fishery	% of DM catch requested in 2016	Species as Bycatch or target	Nbr vessels	Catch Tonnage for the species and fishery	Current Discard rate for the fishery	Review of selectivity options available	CR/BER analysis	measures ongoing (what and when)
<i>Nephrops</i> IIIa/IV/IIa (EU waters)	TR2	6%	Target	Unknown	13847t (landings)	Around 1.5% (below MLS, not including >MLS)	1997 report (test of 84, 90 and 100 mm);	No	Ongoing research to reduce catch of <MCRS catches
Sole IV	BT2/BT1	7%	Target	Unknown	?	13,677 t catch	13%	No	De minimis volume to be used to promote use of larger mesh sizes in fishery
Sole and haddock	TR2 (grids)	2%	By-catch	Ca. 100	4.9t/4.8t	?	Fishery already highly selective with used of grids	No	Ongoing studies to reduce catches of “small” fish in fishery
Sole VIIde	Trammel gillnet	3%	Target/bycatch	FR 70, 100 UK, NL 60, DK (?)	1072t catch	<1%	1997 report (test of 84, 90 and 100 mm);	NA	Recent workshop has not identified obvious measures to be trialed

**Table 3.5-2 De minimis exemptions on the basis of disproportionate costs.**

Species	Fishery	% of DM catch requested in 2016	Specis as Bycatch or target	Nbr vessels	Catch Tonnage for the species and fishery	Percentage of that unwanted to total catch of the fishery	Current Discard rate for the fishery	Cause and estimation of dispr. costs	Measures ongoing (what and when)
<i>Nephrops</i> IIIa/IV/IIa (EU waters)	TR2	6%	Target	Unknown	13847t (landings)	?	Around 1.5% (below MLS, not including >MLS), equates to ca. 210t	High cost of disposal	Ongoing studies to improve size selctivity
Sole IV	BT2	3.7%	Target	Unclear (ca. 116?)	13,667t catch	13%	13%	Unable to pick up sole <19cm without the requirement of 2 additional crew	None described

### 3.6 De Minimis Exemption Proposals

#### 3.6.1 *Nephrops* caught by bottom trawl with a mesh size of 80-99mm

##### Background

The JR notes that “*Nephrops* below MCRS up to a maximum of 6% of the total annual catches of *Nephrops*, caught in fisheries conducted with bottom trawls (OTB, TBN, OTT, TB) with a mesh size of 80-99mm in ICES area IIIa, IV and EU waters of IIa.”

The de minimis is requested based on disproportionate costs associated with disposing of catches below the MCRS (Minimum Conservation Reference Size). The unwanted catches do not represent more than 5% of the total annual catch of that gear.

##### EWG 15-05 Observations

According to the technical annex of the Scheveningen group this request applies only to the Dutch, English and Scottish *Nephrops* fisheries in the North Sea. However, the Joint Recommendation implies that the exemption relates to all *Nephrops* fisheries in the entire area including IIa and IIIa. Furthermore, while the annex states “*The request applies to the Dutch, English and Scottish Nephrops fisheries*”, the introduction goes on to provide catch and fleet data for the Belgium fleet: “11 Belgian based vessels target *Nephrops*. The landings are on a yearly basis about 400 tonnes, which represent a value of 2,37 MEURO”.

EWG 15-05 notes that the JR only reports average and approximate landings for the Belgium, UK and the Dutch Fisheries. EWG 15-05 note that it is unclear whether information on discards <MCRS is available or not. The technical annex notes that “*Unfortunately no breakdown of discards between above and below MCRS catch is available*”, yet elsewhere in the annex it is stated that the “*UK monitoring and Dutch self-sampling programmes suggest that undersized individuals will be about 1.5% of the total annual catch of Nephrops*”. Most of the catches of under-sized individuals occur in the functional units close to the coast as the Firth of Forth. Discards from the Fladen fishery are much smaller. Based on the total average catches provided in the technical annex (i.e. 13847 tonnes) the requested de minimis of 7% will result in a total volume of 969 tonnes. EWG 15-05 notes that assuming a 1.5% catch of *Nephrops* <MCRS would equate to catches of 210 tonnes.

EWG 15-05 notes that JR considers that even though neither the volume of undersized *Nephrops* that will be landed nor consequently the costs associated with disposal procedures can be quantified before the Landings Obligation is fully operational, such costs are predicted as very high. EWG 15-05 notes that presently, the MCRS for *Nephrops* in ICES Division IIIa differs from that in ICES area VI. It is unclear why ICES Division IIIa is included in the de minimis proposal given that there are no reported landings of *Nephrops* from ICES Division IIIa associated with the Netherlands, England, or Belgium from this area (ICES, 2014). Furthermore, it is unclear whether the intention is to include Belgium in this de minimis exemption.

It is noted that discard rates of *Nephrops* under MCRS vary by country from about 1% in the Dutch fishery to more than 6% in some Scottish fishing areas, where spatial-technical limitations (e.g. vessel length) make it difficult to move fishing activity on alternative grounds. It is considered necessary that a de minimis exemption addresses specific difficulties caused by local differences. Specifically, it is noted that the 6% de minimis request exceeds the overall North Sea discard rate (1.5%). This is intended to provide "headroom" in the early days of implementing the landing obligation while the processes of monitoring and compliance become established. Clearly, if control processes applied a global (1.5%) de minimis on a local trip basis (or other short timescale) in restricted inshore areas, then individual vessels would likely exceed the limit. It is fully expected that no de minimis will be utilised in offshore areas and that the resultant end year catch taken as de minimis, will in fact not exceed the

global limit. The de minimis request is made for a temporary period, and it should be possible to adjust the 6% figure downwards once the control processes establish the mechanism for accounting the overall figure and all stakeholders become familiar with its operation.

EWG 15-05 notes that disposal potential costs have only been estimated for the UK. No estimates are available for other MS but it is considered to be expensive also in this area due to the limited quantities and disproportionate costs of transport. However, costs should decrease as further species are subject to the landing obligation.

EWG 15-05 notes that in the JR it is anticipated that the derogation is a temporary measure. There are ongoing studies aimed at the identification of measures for the reduction of catches of under-sized *Nephrops*, in particular by enhancing selectivity whilst maintaining an economically viable fleet. There are also studies on measures aimed at raising the value of *Nephrops* which is sold, likely to provide a larger cushion against the costs of disposal of unsold ones, and also on the feasibility of developing more cost-effective facilities for *Nephrops* disposal.

The JR contains a quantitative example that is considered useful for evaluating whether the available technical solutions for disposal of unwanted catches are economically too difficult and expensive at present. The main causes of these disproportionate costs are documented for the UK TR2 fleet. EWG 15-05 notes that other measures aimed at reducing the costs linked to the landing obligation in terms of improvement in selectivity/avoidance measures or handling discards are already ongoing and further work is planned for the near future, but their possible impacts cannot be assessed at this moment.

EWG 15-05 considers that the fleet segments (by MS) for which this de minimis exemption is being sought should be clarified and detailed catch data provided. EWG 15-05 further notes that some estimates of expected additional costs associated with the disposal of *Nephrops* <MCRS are included and compared with current costs: Assuming a mean discard of 5%, these additional costs are not insignificant. Estimates for the UK suggest that each vessel would have to dispose of 0.5t/month and this should represent a reduction of some 16% of average gross profit for each vessel. It is clear that whenever different discard rates will occur, the importance of the economic impact may vary significantly between fleet segments.

As the catch expected to be discarded under the de minimis provision is unclear due to a lack of information on which fleets (MS) are to be included, a precise evaluation of its likely impact is not possible. EWG 15-05 notes that such an estimate could be calculated with existing data collected under the provisions of the DCF.

EWG 15-05 notes that the arguments regarding disproportionate costs are supported by reasoned quantitative information on the expected additional costs associated with the disposal of such unwanted catches. EWG 15-05 notes that in accordance with article 15.5(c)(ii), the JR specifies that the unwanted catches do not represent more than 5% of the total annual catch of that gear. EWG 15-05 considers that the information provided in JR, and in particular the economic assessment based on a hypothesis of discard fraction of *Nephrops* for the UK fleet, provides a robust economic analysis of the potential additional costs which represent 16% of the average net profit for vessels in the fishery. EWG 15-05 cannot conclude whether this constitutes “disproportionate costs” but notes that the additional costs of disposal are significant.

3.6.2 *Common sole caught by beam trawls with a mesh size of 80-90mm or similar selective gears.*

### **Background**

The JR notes that “A *de minimis* exemption of 7% For the sole fishery using TBB 90-119mm gear or similar selective gears in the southern part of the North Sea (ICES areas IV south of 55/56\*N) and in Skagarrak (ICES areas IIIaN) and TBB 100-119mm gear or similar selective gears in (ICES areas IV north of 55/56\*N and EU waters of IIa).”

The basis of the request is primarily on improvements in selectivity being very difficult to achieve.



## **EWG 15-05 Observations**

EWG 15-05 notes that the primary rationale behind the de minimis exemption is to promote the use of more selective gear *“In view of this difficulty and in the spirit of the landing obligation, in particular with regards to the protection of juvenile life stages and in an attempt to reduce the occurrence of unwanted sole by catches”*, vessels which choose to deploy a TBB gear equipped with minimum mesh sizes of 90 mm or a gear with at least a similar increased selectivity, shall be granted an exemption of the full range of the de minimis, i.e. an exemption of 7% of the total sole catches taken with the TBB 90-119mm.

EWG 15-05 notes that “for the time being the sole fishery is essentially carried out with a gear of 80mm even though in 2013 10 UK vessels used TBB  $\geq$  90mm with an average catch of approximately 200 tonnes”. Therefore currently, the number of vessels affected is 10.

In respect of the vessels to which this exemption will apply, this appears to vary between section 5.2.4 of the JR and the text in the supporting Annex (H). The title of section 5.2.4 of the joint recommendation refers to TBB 90-119mm while the accompanying text refers to TBB 90-119mm in the southern part of the North Sea and Skagarrak and TBB 100-119mm in ICES areas IV north of 55/56\*N and EU waters of IIa. Finally, annex H refers only to TBB 90-119mm.

EWG 15-05 notes that in section 5.2.4 of the Joint Recommendation, the exemption is defined as being “for sole under the MCRS” and amounting to “7% of the total annual catches of sole with TBB gear 90-119mm or similar selective gears”, whereas in the technical annex, the exemption is defined as being “an exemption of the full range of the de minimis, i.e. an exemption of 7% of the total sole catches taken with the TBB gear 80-119m. EWG 15-05 notes that these inconsistencies should be clarified.

The TAC for sole in Union waters of IIa and IV in 2015 is 11,900 tonnes. ICES advise that while discards are known to take place these cannot be quantified and therefore total catches cannot be calculated. However, according to the Scheveningen Group discard atlas, the average discards of sole over the period from 2010 to 2012 with TBB 80-119 mm amounted to 13% of the catches. Therefore the expected discards associated with landings of 11,900 tonnes are 1,777 tonnes.

STECF note that it is unclear whether the information, as presented, is intended to support the benefit of beam trawls with a mesh size 90-119mm or as scientific evidence indicating that increases in selectivity are very difficult to achieve. However, as no provision is made to directly reward the voluntary adoption of more selective gear with de minimis exemptions and as article 15 (5), (c), (1) of Regulation (EU) No 1380/2013 states that the de minimis exemption shall apply in cases where scientific evidence indicates that increases in selectivity are very difficult to achieve, it is more like the latter.

Further STECF recalls section 5.5 of its 48th Plenary Report and the advice presented on gear trials conducted in VIId and IVc in January 2015 and the report by Belgian fisheries institute ILVO summarising the results of these trials. STECF considers that, notwithstanding some slight concerns on the representativeness of the trials performed, the suggested modification of the trawl extension committed to by Belgium can potentially result in a reduction in the catch of small fish without dramatically affecting the catch of fish above the MLS.

In summary, EWG 15-05 notes that there are a number of inconsistencies in the definitions of the fisheries to which the de minimis is to apply. These should be clarified as these determine the volume of de minimis requested as well as how that de minimis would be distributed. While the JR provides information regarding the fact that improvements in selectivity are difficult beyond a certain point, it appears that the intention is to provide a de minimis volume and to provide this to vessels as an incentive to improve selectivity. It is unclear to EWG 15-05 whether this is in the spirit of the regulation as it does imply that selectivity can be improved to some degree i.e. by increasing mesh size from 80 to 90mm, but beyond that, losses of marketable sole would be too significant.

### 3.6.3 Common sole caught by beam trawls with a mesh size of 80-90mm

The JR notes that “A *de minimis* exemption of 3.7% for the sole fishery using TBB 80-90mm in the southern part of the North Sea (ICES areas IV south of 55/56\*N).”

The JR requests a *de minimis* exemption to discard common sole (<19cm) in ICES ICES areas IV south of 55/56\*N primarily to avoid disproportionate costs of handling unwanted catches noting also that increased selectivity is hard to achieve without loss of a large part of marketable sized sole.

#### **EWG 15-05 Observations**

EWG 15-05 notes that based on preliminary results from a Dutch pilot project (where all catches from three fishing trips remained on board) “*it became clear that sole smaller than or equal to 19 cm could not be picked up from the conveyor belt, noting that they are simply too small to handle manually with gloved hands*”. EWG 15-05 notes that while the existing crew can handle catches of sole larger than 19cm, the preliminary results show that, on average, the processing time on two of the trips where all catches remained on board, increased by 34% and 29%, respectively.

The annex to the JR concludes that with the five existing crew fully occupied, the additional task of sorting discards will require the addition of 1.7 and 1.5 extra crew (for the two trips analysed). Further, it is concluded that if no extra crew are taken onboard, “*safety is jeopardized and the working hours of the crew are no longer in line with the safe manning requirements as laid down in national and international (EU, ILO and IMO) legislation*”.

The number of vessels is not clearly indicated. Annex G to the JR notes that “in 2013, 102 Dutch vessels and 18 UK vessels used a TBB 80-119mm gear. For 98 vessels it was the most important gear. In 2014 the Dutch TBB 80-119mm fleet landed in total approximately 9.098t of sole in 2014 with 28t of sole having been caught with this gear”.

In respect of the number of vessels involved, the information presented in Annex G to the JR does not clearly indicate this number. References to TBB 80-90 and TBB 80-119 are inconsistently and, apparently, interchangeably, presented. This requires clarification, and where possible, unambiguous information presented.

EWG 15-05 notes that one option to reduce disproportionate costs is to remove small fish (under 19cm) from the catch through increased selectivity. On this point Annex G notes that an increase in selectivity is very hard to achieve. According to a study from IMARES in which the catches of fishing trips with a beam trawl with three different mesh sizes (70, 80 and 90 mm) have been compared, the catches of undersized sole decrease with 50% and catches of marketable sole decrease with 30-47% when the mesh width is increased from 80 mm to 90 mm. The catches of undersized plaice are not lower with 90 mm than with 80 mm (Quirijns et al, 2007).

It is not clear from the annex whether sole under 19 cm i) could not be picked up under any circumstances or ii) could only be sorted with the addition of additional crew and, consequently, at disproportionate cost. Furthermore, EWG 15-05 notes that in order to comply with the provisions of the documentation of the catch (either retained or discarded via a *de minimis* exemption) there is still a requirement to quantify such catches which will presumably require some level of catch handling.

EWG 15-05 notes that in annex G to the JR reference is made to TBB 80-90, TBB 80-119 and TBB 80 and it is unclear whether the exemption shall be 3.7% of the total annual catch of sole with TBB 80-90mm or with TBB 80-119mm. The TAC for sole in Union waters of IIa and IV in 2015 is 11,900 tonnes. ICES advise that while discards are known to take place these cannot be quantified and therefore total catches cannot be calculated. However, according to the Scheveningen Group discard atlas, the average discards of sole over the period from 2010 to 2012 with TBB 80-119 mm amounted

to 13% of the catches. Therefore the expected discards associated with landings of 11,900 tonnes are 1,777 tonnes.

EWG 15-05 notes that the arguments regarding disproportionate costs are based on quantitative information on the expected disproportionate costs of handling of such unwanted catches and notes that the JR specifies that the unwanted catches do not represent more than 3.7% of the total annual catch of that gear. EWG 15-05 could not determine whether it is truly difficult to pick up small sole with gloved hands and that this would require the substantial increases in labour as indicated. EWG 15-05 expressed some doubt whether this is sufficient for granting exemptions, also considering that similar issues of sorting small fish are generic across many fisheries and species. Furthermore, article 15.5(c)(ii) requires that all de minimis catches “*shall be fully recorded*” which would require some degree of catch handling. EWG 15-05 also notes inconsistencies in the argumentation associated with disproportionate costs due to the requirement to hire two additional crew for sorting of the catch. As EWG 15-05 did not have access to the report from the study, it is unclear whether the additional crew were required to sort (i) only sole catches <19cm or (ii) to sort all catches. EWG 15-05 is therefore unable to assess whether it is in practice difficult to pick up small fish and therefore whether the exemption is justified and whether such significant increases in crewing would actually be required in practice.

#### 3.6.4 *Fish by-catch caught in Nephrops targeted trawl fishery*

##### **Background**

The JR notes that “*A de minimis exemption of up to a maximum of 2% of sole and haddock of the total annual catches of Nephrops, sole and haddock in the fishery for Nephrops conducted with bottom trawls (OTB, TBN) with a mesh size of at least 70 mm equipped with a species selective grid with bar spacing of maximum 35 mm in ICES area IIIa.*”

The JR requests a de minimis is due to difficulties to further increase the highly selective properties of the gear concerned. The species in question for de minimis represent small but unavoidable by-catches. As *Nephrops* is the only income for users of this gear, they are particularly vulnerable to the potential losses an increase in selectivity would create.

##### **EWG 15-05 Observations**

It is proposed that up to a maximum of 2% of the catches of sole, haddock may be discarded. The de minimis volume is based on 2% of the combined catches of sole, haddock and *Nephrops*. Finfish species mentioned above are unavoidable by-catch but their amount is considered modest. It is argued that there are objective difficulties to further improvements in selectivity. The JR notes that further increases in selectivity aimed at reducing by-catch is likely to produce important losses in *Nephrops* catches, that represent the only source of income in the fishery as the selection grid effectively excludes almost all marketable finfish by-catch. Sole and haddock in 2016 catches were estimated to be 12.2 and 11.7 tons respectively.

In the Swedish *Nephrops* fishery, the utilization of bottom trawls equipped with a selection grid (a variant of the *Pandalus* grid) has driven to an almost complete disappearance of roundfish like cod in the catch. Most of the Swedish vessels utilize such device and *Nephrops* landings represents 53% of their total landings in Skagerrak and Kattegat. Such gear is used for most of the demersal trawlers operating (>100vessls) at least in part of the year. Its utilization has been encouraged i.e. as increasing quota share, allowing fishing with such gear in commercially important *Nephrops* areas where fishing operations are restricted. Discard sampling on board has been performed and catch statistics are reported in the above mentioned document from 2009-2013.

*Nephrops* comprised 98% of total landings in grid trawls. Whenever *Nephrops* grid discard and landings are combined *Nephrops* represents about 68% of grid trawls total catch. Discarded fraction of other species is much higher than discarded fraction of *Nephrops*, but amounts are in any case modest.

Discarded fish are almost exclusively composed of individuals smaller than the legal minimum landing size.

Estimated discards of haddock and sole in Swedish IIIa *Nephrops* grid fishery is on average 4.9 and 4.8 t respectively (2009-13; i.e. about 0.8% of total annual catches for all the species subject to landing obligation). Available data suggest the amount of by-caught fish species planned to be phased-in in the IIIa *Nephrops* grid trawl fishery to be smaller than the stipulated percentage for a *de minimis* exemption.

In summary, EWG 15-05 notes that the request in the case of the mentioned *Nephrops* fisheries is based on the belief that any improvement in selectivity aimed at reducing finfish catches should lead to losses in *Nephrops* catch and/or to increases in costs, rendering the improvements “difficult to achieve”. EWG 15-05 notes that the *de minimis* exemption is based on a reasoned argument, however there is no quantitative information presented to demonstrate that increases in selectivity are difficult to achieve and the assertion is based only on qualitative information. EWG 15-05 notes that the *de minimis* volume is to be derived by a percentage of catches of multiple species but in this specific case the resultant *de minimis* volumes would be limited due to the low overall catch volumes, EWG 15-05 reiterates the points made previously by STECF that such an approach applied in larger volume fisheries would result in substantial *de minimis* volumes.

EWG 15-05 notes that there is currently research being undertaken to reduce unwanted catches further and that the transition from the current discard rates to the 7% (*de minimis* level) will be challenging without significant improvements in selectivity. EWG 15-05 noted that selectivity trials are currently ongoing and that the results from these should be considered as a means to reduce discards. Furthermore, EWG 15-05 note that the volume of discards associated with *Nephrops* grid vessels are very low in comparison with other *Nephrops* fisheries and consider that these could be classified as “residual” discards given the already highly selective nature of this gear already. The proposed *de minimis* will lead to a status-quo in discard rates for this low-discards fishery, since the percentage requested is at or above the actual discards under current recruitment level.

### 3.6.5 Request for an exemption to the landing obligation for the Common Sole caught in nets (Gillnets-trammel nets) in the North Sea (ICES areas IVa, b and c).

#### **Background**

The JR notes that “A *de minimis* exemption of up to a maximum of 3% for common sole (*Solea solea*) for vessels using trammel nets and gillnets of a maximum of 3% of the total annual catches of this species caught by vessels using these gears (gear codes: GN, GNS, GND, GNC, GTN, GTR, GEN, GNF) to catch common sole in the North Sea (ICES Areas IIIa, IV and EU waters of IIa). The exemption is for the three years of the discard plan, but with option to being modified and completed in the near future according to the species subject to the landing obligation in this fishery in 2017 and 2018.”

The basis for the exemption is due to difficulties to further increase the highly selective properties of the gear concerned.

#### **EWG 15-05 Observations**

The JR for the exemption requested defines the fishery and the species covered (Gillnets and/or Trammel nets targeting sole in ICES Divisions IV a, b and c). Information about the countries involved with the number of vessels is provided, UK (~100 vessels), France (70), Holland (60) and Denmark (unknown). An exception is noted for Danish vessels, but that information is supplied.

In relation with the catch composition, the catches of sole in the net fishery in the North Sea were on average 1,072t (including 4t of catches discarded) in 2010-2012. The discard ratio of sole in gillnets between 2010 and 2012 is negligible in the North Sea. For trammel nets, there are no records of discarding for most of the countries due to the fact that the majority of vessels are under 10m in length and lack observer data. The only discard ratio for this gear is provided for French vessels in the North Sea discard Atlas and is no more than 1% between 2010 and 2012 in average. According to the Obsmer reports 2013 and 2014, the proportion of sole in the catches of the French netters targeting sole in the North Sea and the Eastern Channel is high (~35%), with a low proportion of the sole catches being discarded 2.1% [1.6 - 2.8] in 2013 and 2.2% [1.6 - 2.9] in 2012. The cause of discards for sole is predominantly related to the minimum landing size, 91.6% (2013) and 92.0% (2012).

The exemption of 3% requested for sole in the net fishery based on this figures, would represent a maximum amount of allowed discard for sole of 32.16t. This amount is very limited when compared to the whole TAC for sole in ICES sea areas IIa and IV (11,900t for 2015).

The exemption requested is based on difficulties to improve selectivity. The arguments supporting the difficulties to improve selectivity are based on two studies, (IFREMER 1997) this study showed commercial losses with the increase of the mesh size. The second of the studies is the ongoing project "REDRESSE".

EWG 15-05 notes that the fishery in which the exemption is going to be applied is well defined, with a clear and precise description of the fleets by country (UK, Holland, Denmark and France), the species involved in the minimis request, the operational factors of the fishery and the stock delimitation.

EWG 15-05 also notes that given the data provided, the 3% de minimis exemption in this fishery, with an average catch for the period 2010-2012 of 1,072t would result in very low discarded quantity (32.16 t) in comparison with the total quota for the Subarea (11,900t for 2015 in IIa and IV). This quantity is similar to the level of sole discarded in the fishery (~2%). Likewise most of the fishes discarded (~90%) are individuals under the minimum landing size. It is clear to this group that the application of the LO to that fraction of the catch results in a reduction of the revenues for the concerned fleet due to the limited commercial use of fish under de MLS. It should be noted that most of the figures used for the calculations of the total discard come from the French fishery when operating in the North Sea and the Eastern Channel. Nevertheless, after the feedback received from the observers during the meeting it can be assumed that these figures will be comparable for similar fleets around the North Sea.

In relation with the two studies on selectivity presented underpinning the request, according to (IFREMER 1997), this study showed commercial losses with the increase of the mesh size. The second of the studies, the ongoing project "REDRESSE", carried out a workshop between scientist and commercial fishermen in order to identify selective measures to reduce unwanted catches without impact on commercial catches. During that workshop, no selective measures were identified to reduce unwanted catches without impact on commercial catches; especially for sole for which unwanted catches are really low due to the high selectivity of this gear with that species. Future work in that project will be focused on the publication of guidance for good practice (limitation of the length of the nets and of the soak times, etc.).

### **EWG 15-05 Opinion**

EWG 15-05 notes also that the selectivity evidence is associated with French studies carried out in the Western Channel and not North Sea. However, given that that the studies are associated with a neighbouring area and undertaken with the same or similar vessels. EWG 15-05 acknowledges that additional selectivity improvements through increases in mesh size are problematic to achieve without incurring losses of marketable sole although the potential scale of these losses have not been quantified in the Joint Recommendation. EWG 15-05 considers that there is sufficient evidence provided to support this view but EWG 15-05 is unable to determine whether these are indeed very difficult to

attain or not. The de minimis will lead to a status-quo in discard rates for this low-discards fishery, since the percentage requested is at or above the actual discards under current recruitment level therefore there would be no incentive to reduce discards.

### 3.7 North Sea: Proposals for Exemptions on High Survivability

#### 3.7.1 *Nephrops* caught using pots – ICES area IIIa, IV and EU waters of IIa

##### **EWG 15-05 Observations**

The justification for high survivability is based on the results is largely based on studies undertaken in the West of Scotland (ICES Division VIa), Southern Portugal, Skagerrak and the Bay of Biscay. The results are largely consistent across all trials showing that captive survival rates greater than 80% in all cases. EWG 15-05 notes that there is very limited landings of creel or pot caught *Nephrops* in EU waters of the North Sea, accounting for ~1% of the overall IV(EU) landings of this species, although it is noted that in some Functional Units (FU) e.g. Moray Firth and Firth of Forth creels or pots account for ~4% of the overall landings. Creel fishing is more important in the Norwegian Deeps, outside EU waters – here it accounts for over 23 % of landings.

As noted by EWG 13-16, captive experiments are likely to overestimate true survival as the effects of post discard predation and longer term mortalities are not factored in such studies. STECF notes that the JR makes reference to both short term predation mortality and longer term survival and note a study (Adey, 2007) which quantified predation by seabirds to be in the order of 8.6% but that this has not been considered in the survival rates presented. STECF note that there is anecdotal evidence presented that some vessels are equipped with sub-surface release tubes (1m below surface) to mitigate the effects of post discard seabird predation. STECF considers that the application of such mitigation measures should be promoted across the entire fleet. STECF notes that there are a number of ongoing studies aimed at quantifying sub-surface predation of *Nephrops* but while some degree of predation has been observed in some cases, it is not possible to quantify the extent of this phenomenon.

The description of the fishery for which the exemption is being sought largely describes the pot fishery in VIa and there is no information presented regarding the fisheries in ICES Division IV. Notwithstanding, it is expected that the operational characteristics of pot fisheries in IV will not differ significantly from those operating in ICES Division VIa. However, STECF notes that post discard mortality may differ between regions and will vary depending on the populations of predatory/scavenging fish species and the extent of localised seabird populations. STECF cannot quantify how significant these localised post escape effects may be in practice.

Assuming that the experiments undertaken in other areas reported in the annex to the JR are representative of the operational conditions of the fleets operating in ICES division IV and IIa, then the results indicate that captive survival rates of >80%. EWG 15-05 cannot quantify the potential post discard predation mortality. EWG 15-05 cannot conclude whether this constitutes high survivability but notes that the estimates presented are at the upper end of survivability studies using captive methods.

#### 3.7.2 *Nephrops* caught with trawl gears in area IIIa – Grids and SELTRA trawl

The justification for high survivability is based on the results of a study conducted by the Swedish University of Agricultural Sciences where survival of discards associated with a *Nephrops* otter trawl fitted with a selection grid and SELTRA panels were estimated by captive study. EWG 15-05 notes that the estimates are substantially higher (73% for the grid trawl and 59% for the SELTRA trawl) than

those observed in other studies, e.g. 30% observed by Wileman et al, (1999) and EWG 15-05 considers that there are a number of plausible reasons for this that these should be considered in the evaluation. EWG 15-05 considers that the methodological approach used is appropriate for the estimation of captive discard mortality at the time of the study period: sample size and replication of the experiments provides reliable statistical information and the sampling methods adequately replicate commercial fishing conditions.

EWG 15-05 notes that the study was conducted during a period of relatively cold weather with sea temperatures that were close to the ambient air temperature (ca. 5 degrees C). Anecdotal evidence has shown that exposure to warm air temperature on deck and subsequent discarding into cool water may induce a thermal shock the combination of which is detrimental to *Nephrops* survival. Furthermore, the work presented by Castro *et al* (2003) and referred to in the Joint Recommendation of the SWW MS (see section 3.11.1) shows a significant difference in discard survival between seasons. Discard captive survival was found to be significantly lower (30.5%) during periods of “warm” weather (ca. 20°C) than during periods of “colder” (48.4%) weather (ca. 14°C). Therefore the study presented may in fact overestimate captive survival and EWG 15-05 considers that further work would be necessary to assess whether such survival rates are typical of other periods in the year (e.g. conducted during a period of warmer weather during the late summer), where there is a greater difference in ambient air and water temperature. The experiments also demonstrate differences in survivability between the two gear types which indicates that factors other than environmental conditions may also have a significant bearing on *Nephrops* survival including catch size and composition. The former may also benefit *Nephrops* survival due to reduced sorting times which will reduce exposure time.

EWG 15-05 notes that the size composition of *Nephrops* available for the survival experiments was larger than is typically observed in overall annual catches for Skagerrak *Nephrops* as reported to ICES. Modal length of *Nephrops* in the experiments was around 37mm whereas in the annual catches it was around 34mm with relatively more small animals present. The reduced numbers of smaller *Nephrops* in the experiments may be a function of the time of year when the experiments took place. While there was no clear relationship between length and probability of survival EWG 15-05 considers that repeating the experiment later in the year (late summer /early autumn) when recruitment of *Nephrops* typically takes place and catch size composition declines, would provide a more complete picture of survivability in this fishery.

The Expert Group notes that the experiments indicate a captive survival rate for *Nephrops* of 75% for grid trawls and 59% for the SELTRA trawl, although it is not possible to reliably quantify the extent of any potential post-discard predation mortality which would result in a medium-longer term survival rate less than those observed in the study. In the absence of any objective criteria, the Expert Group is unable to determine whether such a survival rate can be considered as high, and such a decision will need to be taken by managers using subjective criteria. The Expert Group also notes that the observed survival rate of 75% for the grid trawl in these experimental trials is at the upper end of the observed survival rates for *Nephrops* in other captive survivability studies, whilst the survival rate of 59% in the SELTRA trawl is in the median range. To determine whether the observed captive survival rate is typical for other periods throughout the year, particularly during warmer periods, the experimental trials would need to be repeated seasonally and the Expert group notes that further studies are planned for Autumn 2015. Given the seasonal variability in survival rate observed in other studies (Castro et al, 2008), EWG 15-05 considers it appropriate to await the outcome of the Autumn 2015 experiments so that the results can be taken into account by managers in deciding whether survivability of *Nephrops* is to be considered sufficiently high and whether to grant the proposed high survivability exemption on such grounds.

### 3.7.3 *Nephrops* caught with trawl gears in area IV and EU waters of IIa - NetGrid

#### **Background**

The justification for high survivability is based on the extrapolation of the results from the studies conducted in the Skagerrak and applied on the assumption that the NetGrid design significantly reduces by-catch and therefore improves the chances of survival. EWG 15-05 notes that there are a number of possible explanations for the elevated survival rates observed in the trials undertaken in IIIa in comparison to earlier studies. In particular, the ambient environmental conditions (air and sea temperature) are likely to offer optimum conditions for discard survival. EWG 15-05 considers that the experiments undertaken in Division IIIa should be repeated and therefore cannot be simply used as the basis for survival exemptions in other regions.

The Expert group notes that there is significant variability in the results from different survival studies on *Nephrops* ranging from 12% to 80%. The reasons behind such variability are not fully understood, but overall environmental conditions (ambient air and sea temperature) as well as specific factors relating to gear; catch composition; tow duration and on-board handling etc are all likely to be significant contributing factors. Given the above observations and taking into account the lack of comparative information on population size, catch composition and environmental conditions etc in Division IIIa and Subarea IV, it would not be advisable to assume that survival rates of *Nephrops* in the fisheries in IIIa and Subarea IV are likely to be the same. Hence, a decision on whether to grant an exemption for *Nephrops* in IV on the grounds of high survivability would be better informed if dedicated survival studies were undertaken in the fishery for which the exemption is being sought. Such an approach would be in keeping with the following text from Article 15.4(b) of Regulation (EU) No 1380/2013 which is as follows: “*species for which scientific evidence demonstrates high survival rates, taking into account the characteristics of the gear, of the fishing practices and of the ecosystem.*”

### **3.8 North Sea: Proposals for Changes in the Minimum Conservation Reference Size (MCRS)**

#### **Background**

The Joint Regulation includes a proposal for an adjustment to the Minimum Landing Size (MLS) for *Nephrops* in IIIa Skagerrak/Kattegat. The current MLS is 130mm total length (equivalent to 40mm carapace length) and the proposal is for a reduction to an MCRS of 105mm total length (equivalent to about 32mm carapace length). An important consideration when proposing reductions to MCRS is whether there is a risk that juveniles will no longer be protected and that reproductive capacity will be impaired. The lengths of 50% maturity for males and females in the IIIa *Nephrops* population is estimated to be 30mm and 27.8mm respectively (ICES 2006). The L50's of female *Nephrops* are generally higher in the Skagerrak and Kattegat (FUs 3 and 4) than in the adjacent North Sea area (ICES 2006). Given that the proposed MCRS is above the L50 maturity sizes, EWG 15-05 considers that the risk to the population is small although any increase in mortality of smaller individuals (>50% maturity) from current levels will likely result in lower  $F_{MSY}$  values and therefore reduced yields.

#### **3.9 Technical measures in the Skagerrak**

Point 8, supported by Annex J, of the JR recommends that specific technical measures relating to fisheries in the Skagerrak (ICES Area IIIaN) should be included in the discard plan for the North Sea. This follows from the recent amendment to Article 15(4) of the CFP “Basic Regulation” under Regulation (EU) No 2015/812. This allows for the inclusion of technical measures aimed at increasing gear selectivity or reducing and/or, as far as possible, eliminating unwanted catches into discard plans.

These measures detail a specific range of gears that could be used as an alternative to a baseline gear of 120mm in demersal fisheries for *Nephrops*, mixed demersal species and *Pandalus*. There is also a derogation to allow for pelagic and industrial fisheries with mesh sizes of less than 70mm.

The EWG understands from the JR that these gears were agreed between the EU and Norway (in 2011, and repeated in 2012) as part of a proposal for a discard ban in the Skagerrak. The technical measures agreed were included in a proposal for a regulation of the European Parliament and Council with the purpose to implement a landing obligation in the Skagerrak as of 1 January 2013. However, agreement



on this proposal was never reached due to the negotiations of the CFP that were ongoing at the time. As a transitional measure the measures were introduced within Danish and Swedish national legislation 2013.

No supporting information was supplied to EWG 15-05 to support the inclusion of these measures. However, EWG 15-05 notes that the standard mesh size of 120mm represents an increase in mesh size compared to the current mesh size of 90mm in place in the Skagerrak under Regulation (EC) No 850/98. EWG 15-05 also notes that at least three of the 3 of the four derogated gears (i.e. the large mesh diamond mesh or square mesh panel (SELTRA trawl) and the use of a sorting grid in the *Nephrops* fishery with either a 70mm square mesh or 90mm diamond mesh codend) proposed for demersal fisheries have been the subject to assessment previously by STECF in the context of the cod plan. These assessments have confirmed that these gears reduce the catches of cod and other gadoid species in these or similar fisheries. The other gear relating to the *Pandalus* fishery allows for the use of a fish retention device constructed with a top panel of 120mm square mesh. Based on available selectivity information such a device would be at least as selective for cod and other gadoids as a 120mm codend. On this basis and noting that these measures have previously been agreed between EU and Norway, EWG 15-05 does not see any reason for not including these technical measures in the discard plan for the North Sea.

### **3.10 South Western Waters: De Minimis Exemption Proposals**

#### *3.10.1 South-western waters: Overview of Provisions*

The Joint Recommendations for the South-western waters covers demersal fisheries for sole, hake and *Nephrops* in ICES Areas VIII, IX, X and CEACF areas 34.1, 34.1.2, 34.2. It includes a survival exemption for *Nephrops* in trawl fisheries in the Bay of Biscay and Iberian waters and three de minimis exemptions. Two of these relate to sole fisheries in trawl fisheries and trammel and gillnet fisheries in ICES subsareas VIII a and b and the other covering catches of hake below MCRS in trawl fisheries in ICES subareas VIII and IX.

**De minimis exemptions on the basis of improvements in selectivity being very difficult to achieve.**

Species	Fishery	% of DM catch requested in 2016	Species as Bycatch or target	Nbr vessels	Catch Tonnage for the species and fishery	Current Discard rate for the fishery	Review of selectivity options available	CR/BER analysis	measures ongoing (what and when)
Sole VIIa and VIIb	Beam and otter trawl	5%	Target (in mixed fishery)	375/600 French Trawlers 15 Belgium Beam Trawlers	1100 – 1700t (landings)	3.6 – 8.1% (below MLS, not including >MLS)	Estimated loss of marketable catch of 3.9 million euro	No	Ongoing research to reduce catch of <MCRS catches
Sole VIIa and VIIb	trammel nets and gillnet	3%	Target (in mixed fishery)	Ca. 500 French trawlers	1400 – 2400 tonnes	0.7%	No	No	None specified
Hake in VIII and IX	Bottom trawl	7%	Target	Unspecified	Uncertain	Uncertain	No	No	Insufficient clarity on fleet segments to be covered by the LO to permit assessment

### 3.10.2 *A de minimis is sought for common sole (Solea solea), made by beam trawl and bottom trawls in directed fishery in ICES subareas VIII a and b*

#### **Background**

The JR notes “*for common sole (Solea solea), up to a maximum of 5 % of the total annual catches made by beam trawl (gear code : TBB) and bottom trawls (gear codes: OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX) in directed fishery in ICES subareas VIII a and b.*”

The main basis for the proposed exemption is difficulties to improve selectivity

#### **EWG 15-05 Observations**

Annex B to the joint recommendation and the SWW Discard Atlas reports that the fishery involves 375 French trawlers that targets a variety of species in different areas and seasons; with no clear target species. A wide diversity of species are caught, most of which are landed. Sole constitutes less than 5% of total annual catches but is specifically targeted seasonally, with by-catch all through the year. Also a small number of Belgian beam trawlers (15 vessels 2013) targets sole more specifically during the summer months. Around 50% of the landings consist of sole in the Belgian fleet.

According to the data provided in annex B, sole discard rate is estimated at 3.6 to 8.1% for 2011-2013 for the French fleet and 6% for the Belgian fleet. Most of the discarded sole is undersized.

EWG 15-05 notes that difficulties to improve selectivity are based on an outcome of a study that compared catches between the standard 70 mm and an 80 mm cod-end, which predicted substantial (-3.9 million euros the first year) short-term losses of income with such an increase in mesh size. Further gear development to reduce catch of undersized sole is under way within the French project REDRESSE. The exemption is also briefly supported, in the conclusion section of the annex, by an argumentation of disproportionate costs for vessel modification and improvement of the handling process to handle unwanted catches.

EWG 15-05 notes that the proposed exemption is not clearly defined in terms of which fishery it would be applied to, as the supporting information in the annex indicates that trawlers in this category target many other species besides sole. As the exemption is proposed for a directed fishery, EWG 15-05 propose that a clarification is needed on how vessels/trips directed at other species are to be identified and handled in relation to an exemption. Furthermore, it is unclear whether the 230 French *Nephrops* targeting vessels (that also uses 70-100 mm mesh size and lands app. 400 tonnes of sole yearly; SWW Discard Atlas) are covered by the exemption. These questions need to be clarified in order to make a qualified assessment of the scope and volume of the exemption possible. Clarifications given by Observers participating in the EWG 15-05 stated that the proposed exemption is sought for all beam and otter trawlers using mesh sizes between 70-99 mm irrespective of what species they target. The wording "in directed fishery" in the proposal is the reason for this confusing. This means that around 600 French vessels and 15 Belgian beam trawlers would be included in the exemption. EWG 15-05 consider that the phrasing of the de minimis proposal should be adjusted to accommodate these clarifications.

The calculation of the de minimis percentage is not clear, although the supporting information indicates that it may refer to sole catches. EWG 15-05 suggests that a clarification is needed whether the 5 % would apply to the total annual catches of all species or to the total annual catches of sole in the fishery. The % asked for the de minimis (5%) is close to the average level of discarding of this stock by these fleets. Subsequent clarifications provided by Observers participating in EWG 15-05

indicated that the intention is that the de minimis will be based on total sole catches (and not total catches as indicated in the JR)

EWG notes that the area for the proposed exemption is identical with the sole stock boundaries (subarea VIIIa and b), which is likely to facilitate data collection and stock management.

EWG 15-05 notes that it is not possible to estimate the de minimis volume directly from the information provided in the JR for sole in this fishery. However, as the de minimis % is based on sole catches, the volume should be similar to historical discards. Based on 2011-2013 data from the SWW Discard Atlas, the three trawl fleets caught app 1100-1700 tonnes of sole. This indicates a total de minimis volume for sole of ~55-85 tonnes (5% of 1100-1700 t), which corresponds to 1.3-1.8% of total sole catches (ICES data) for these three years. EWG 15-05 notes that the projected short-term income loss of a mesh size increase appear to be substantial at a fleet level. EWG 15-05 noted that the losses of 3.9 million would equate to an average loss per vessel of €6,500 (based on the assumption that these losses relate to 600 vessels), it is not clear whether this constitutes selectivity being very difficult to achieve. However due to the limited and non-quantitative documentation of problems of disproportionate costs, the EWG cannot evaluate whether this assertion is correct or not.

3.10.3 *A de minimis is sought for common sole (Solea solea), up to a maximum of 3 % of the total annual catches made by trammel nets and gillnets in directed fishery in ICES subareas VIII a and b.*

### **Background**

The JR notes “*a de minimis exemption of 3% is requested for Common sole (Solea solea) caught by the vessels using trammel nets and gillnet gears [gear codes: GNS, GN, GND, GNC, GTN, GTR, GEN] in the Bay of Biscay (ICES sub areas VIIIa and b) for the three years of the discard plan*”.

The formal basis for the proposal is difficulties to improve selectivity.

### **EWG 15-05 Observations**

Annex C to the joint recommendation and the SWW Discard Atlas reports that the fishery involves ~500 French vessels that uses gillnets and trammel nets to target a wide diversity of fish, cephalopods and crustaceans in the Bay of Biscay (VIIIa & VIIIb). For vessels <15 m, the most targeted species is sole near the coast (30 to 40% of observed fishing operations). Vessels >15m also target hake further offshore.

According to the data provided in annex C the proportion of sole is reported to constitute 11-50% of total catches in the fishery. Vessels <15m generally show higher discard rates of sole (1.1 to 2.7%) than vessels >15m (0.3 to 0.6%). Based on calculations from the SWW Discard Atlas, data indicate that the discard rate for the two fleets combined amounted to 0.7, 1.5 and 0.9% respectively for the years 2011-2013. Most discarded sole are below MLS.

The formal basis for the proposal is difficulties to improve selectivity. The exemption is supported by an argumentation on how selectivity cannot be improved due to negative impact on revenues for the fleet, by referring to a workshop within the current project REDRESSE, which concluded that selectivity increase by gear changes is difficult. Instead work is in progress to produce a publication of guidance for good practice, expected later this year. No quantitative results are presented.

The proposed exemption is not well defined in terms of which fishery it would be applied to, as the supporting information in annex C indicates that also other species are targeted by nets <120 mm (meagre, sea bass or cuttlefish are mentioned). As the exemption is proposed for a directed fishery, the

EWG 15-05 propose that a clarification is needed on how vessels/trips directed at other species are to be identified and handled in relation to an exemption.

Clarifications given by Observers participating in the EWG 15-05 stated that the proposed exemption is for all vessels fishing with gill and trammel nets using mesh sizes <120 mm irrespective of what species they target. The wording "in directed fishery" in the proposal is the reason for this confusion. This means that ~500 French vessels would be included in this exemption. EWG 15-05 consider that the phrasing of the de minimis proposal should be adjusted to accommodate these clarifications.

The basis for calculating the de minimis percentage is not clear, although the supporting information indicates that it refers to sole catches. A specification is needed whether the 3 % would apply to the total annual catches of all species or to the total annual sole catches in the fishery. The % asked for the de minimis (3%) is, according to the plan, somewhat higher than average levels of discarding reported by the two fleets (0.7-1.5%). Subsequent clarifications provided by Observers participating in EWG 15-05 indicated that the intention is that the de minimis will be based on total sole catches (and not total catches as indicated in the proposal heading)

The EWG notes that the area in the proposed exemption is identical with the sole stock boundaries (subarea VIIIa and b), which is likely to facilitate data collection and stock management.

In summary EWG 15-05 notes that it is not possible to estimate the de minimis volume directly from the information provided in annex C of the JR for this fishery. However, based on 2011-2013 data from the SWW Discard Atlas, the gillnetter fleet caught ~ 1400-2400 tonnes of sole. This indicates a total de minimis volume for sole of ~ 41-72 tonnes (3% of 1400-2400 tonnes), corresponding to 1.0-1.6% of total sole catches (ICES data) for these three years.

EWG 15-05 considers that while the arguments regarding difficulties in improving selectivity are credible. However, the qualitative nature of the information presented means that EWG 15-05 cannot evaluate whether this assertion is correct or not.

3.10.4 *A de minimis exemption of the landing obligation for hake (Merluccius merluccius) of the total annual catches made by bottom trawlers in directed fisheries in ICES subareas VIII and IX.*

### **Background**

In the frame of the landing obligation for the demersal fisheries in the South Western Waters, a de minimis exemption of 7% is requested for hake (*Merluccius merluccius*) of the total annual catches made by bottom trawlers in directed fisheries in ICES subareas VIII and IX for 2016 and 2017, and 6% for 2018 and by 5% thereafter.

The formal basis for the proposal is difficulties to improve selectivity as well as disproportionate costs of and the de minimis applies to the following fleet segments:

1. Pair bottom trawl (PTB\_DEF $\geq$ 100) targeting hake in the Bay of Biscay in VIIIabde
2. Pair bottom trawl targeting pelagic and demersal species (PTB\_MPD $\geq$ 70) in VIIIc
3. Bottom otter trawler targeting demersal species in the Iberian waters (VIIIc and IXa) (OTB\_DEF $\geq$ 70)

### **EWG 15-05 Observations**

EWG 15-05 notes that it is not clear from the text in the JR whether the % de minimis applies to total catches of hake or total catches of all species. Feedback from observers at the EWG 15-05 meeting suggested that it is implicit in the definition of the fisheries that the % de minimis applies to total catches of hake within each management unit.

EWG 15-05 notes that an application of de minimis to vessels PTB\_DEF $\geq$ 100 targeting hake in the Bay of Biscay in VIIIabde and not to other areas within the Northern hake management zone may cause confusion amongst vessel operators. Further clarification on whether vessels in PTB\_DEF $\geq$ 100 operate in other areas within the Northern hake management zone is required.

The defined PTB\_MPD $\geq$ 70 management unit uses mesh size  $\geq$ 70 mm. The JR states that vessels may also use  $\geq$ 55 mm mesh depending on the target species and catch composition. EWG 15-05 notes that it is not clear whether vessels can deploy mesh sizes  $<$  or  $\geq$ 70 mm on the same trip and it is not clear if an exemption is being sought for specific or all operations within a trip in this unit. These issues need to be clarified. EWG 15-05 notes that it is not currently possible in the case PTB\_MPD $\geq$ 70 to precisely identify which trips would be subject to a de minimis exemption.

The defined OTB\_DEF $\geq$ 70 management unit uses mesh size  $\geq$ 70 mm. The JR states that vessels may also use mesh size  $\geq$ 55mm depending on the target species and catch composition. Vessels operating in IXa may deploy mesh sizes  $<$  or  $\geq$ 70 mm on the same trip. EWG 15-05 notes that it appears, therefore, that an exemption is being sought for specific operations using mesh size  $\geq$  70 mm and not for other operations using smaller mesh sizes in the same trip in IXa. It is not clear if vessels operating in VIIIc can deploy mesh sizes  $<$  or  $\geq$ 70 mm on the same trip and it is not clear if an exemption is being sought for specific or all operations within a trip in this unit. EWG 15-05 notes that it is not currently possible in the case of OTB\_DEF $\geq$ 70 to precisely identify which trips would be subject to a de minimis exemption.

In PTB\_DEF $\geq$ 100 a total of 1682 t of hake were landed in 2013 and 6% of the total hake catch was discarded. Some 99% of discarded hake were below the MLS of 27 cm. EWG 15-05 notes that the % requested for the de minimis (7%) is, according to the plan, similar to the level of hake discarding (6%) in the PTB\_DEF $\geq$ 100 management unit in the most recent year for which data are available (2013).

In PTB\_MPD $\geq$ 70 discard information is available for mesh sizes  $\geq$  55 mm which includes mesh sizes  $\geq$  70mm but is not available specifically for mesh sizes  $\geq$ 70 mm. The JR suggests that this discard information represents an overestimation of discards in the  $\geq$  70 mm gears. Hake landings were  $\sim$  1860t in 2013 and no quantity of discarded hake was provided. The following information was provided: Total discards of all species was  $\sim$  16000 t for vessels using  $\geq$ 55 mm mesh in 2013. When vessels targeted hake, hake discards were  $\sim$  7% of the total discards. EWG 15-05 notes that it is not possible to determine an accurate proportion of hake discarded as the proportion of the 16000 t of discards which was caught by vessels targeting hake is not provided. Based on the provided figures, it is likely that the total quantity of discarded hake was  $<$  1120 t (7% of 16000 t), equating to a total discard rate of  $<$  38% in this management unit (1120/(1860 +1120) in 2013.

OTB\_DEF $\geq$ 70 catch information is provided for two countries. In the case of Spain, 1653 t of hake were landed by vessels using  $\geq$ 55 mm (including  $\geq$ 70mm) mesh in VIIIc with 37.6% (714t) of total hake catches discarded in 2013. Approximately 98% of discarded hake were  $<$  MLS. EWG 15-05 notes that based on the provided information, it is likely that the total quantity of discarded hake in VIIIc in OTB\_DEF $\geq$ 70 was  $<$  714 t in 2013. In the case of Portugal, no information on total catches or proportions of hake discarded by Portuguese vessels is provided. Raised length frequency distributions of hake discards by Portuguese vessels show that most of the discards were  $<$  MLS of 27 cm in 2012 and 2013.

EWG 15-05 notes that in the absence of hake discard rates specific to the defined management units PTB\_MPD $\geq$ 70 and OTB\_DEF $\geq$ 70, hake discard rates derived from mesh sizes of  $<$  or  $\geq$ 70 mm may be considered as precautionary estimates of discard rates for these management units, given that smaller mesh sizes are likely to have higher discard rates. The de minimis requested (7%) is likely to have minimal effect in terms of minimising the impact of the LO given that precautionary discard rates of hake which have been estimated in these fisheries are  $\sim$  38%.

The JR states that there is some evidence from a study conducted in the first quarter of 2015 of improved selectivity of hake using square mesh panels (SMP) in PTB\_DEF $\geq$ 100 but also that there have been difficulties “in the setting of the SMPs (that) lead researchers to treat the data as not completely reliable”. No further details or references of selectivity studies carried out in this management unit are provided.

Referencing a study conducted by AZTI which is currently in preparation, the JR also states that “in relation to the Bay of Biscay and the otter trawl with hake catches, escapement of hake through the mandatory SMP which is the main technical measure applied to this fishery is very low”. Although not specified in the text, it appears that this study specifically relates to the VIIIc area within the management unit OTB\_DEF $\geq$ 70. EWG 15-05 notes that it is not possible to determine the cod-end mesh size used in this study (< or  $\geq$ 70 mm) from the text and the referenced study is not available so it is not known if this study is relevant to the OTB\_DEF $\geq$ 70 management unit

Information is also provided on difficulties associated with increasing selectivity of 55 – 59 mm gears in the context of full implementation of the LO. EWG 15-05 notes that this information is irrelevant in terms of the defined management units which employ mesh size  $\geq$  70 mm.

Arguments in relation to disproportionate costs mainly relate to premature cessation fishing trips due to lack of storage space for hake discards, and cost of handling and disposal of the large quantities of hake discards. There is also reference to the Myfish project and modelled impacts of the LO on trawler fleets operating in Iberian waters but this is a very broad argument in relation to the overall impact of the LO. EWG 15-05 notes that large differences in discard rates occurring between the three management units are likely to result in large differences in the costs associated in dealing with these discards.

In summary, EWG 15-05 notes that no relevant information has been presented to demonstrate that increases in selectivity to reduce catches of hake below the 27 cm MLS are in fact difficult to achieve in any of the defined management units in accordance with article 15.5(c)(i). EWG 15-05 concludes that due to the limited and non-quantitative information presented in relation to the defined management units, it is not currently possible to evaluate whether the arguments of disproportionate costs are well founded.

### 3.11 South Western Waters: Proposals for Exemptions on High Survivability

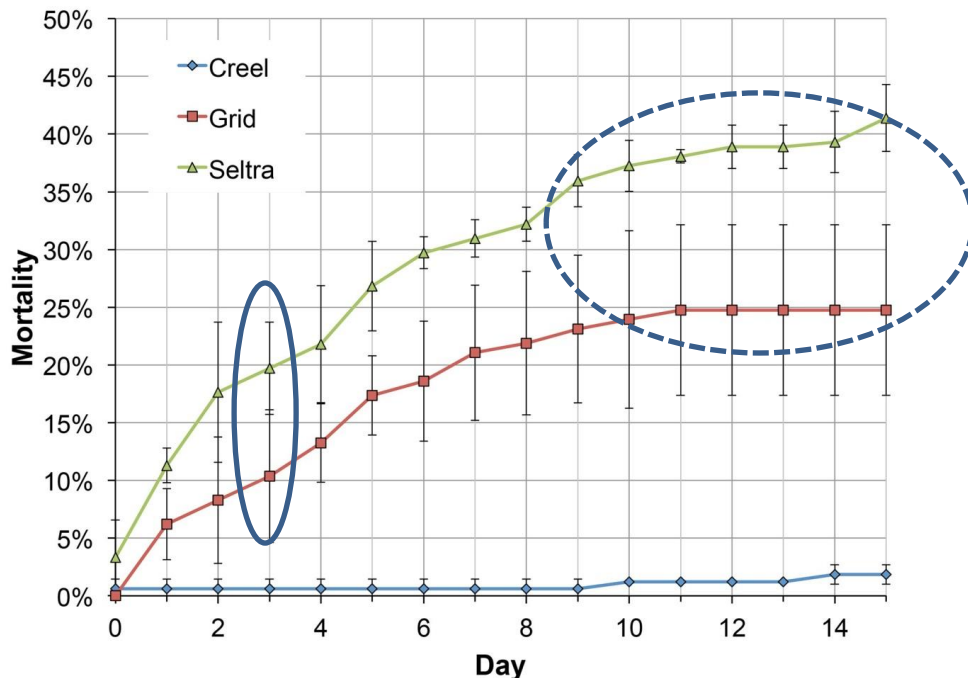
#### 3.11.1 *Nephrops (Nephrops norvegicus) caught with trawls (gear codes : OTB, OTT, PTB, TBN, TBS, TB, OT, PT, TX) in ICES subareas VIII and IX.*

The justification for high survivability is based on the results of (i) a study conducted by IFREMER in ICES Division VIII and; (ii) the results of a study published by the Portuguese national fisheries laboratory. EWG 15-05 notes that there is a large amount of information provided regarding the description of the fishery including information on fleet structure, landings, discards and onboard handling processes but the available information associated with the evaluation of discard survival experiments is limited to a copy of a PowerPoint presentation (in the case of the French study) and reference to a publication in the case of the Portuguese work. EWG 15-05 notes that it would have been informative if more details had been contained in the annexes to the Joint Recommendation.

Survival of discards associated with a *Nephrops* otter trawl were estimated by captive observation in both studies. EWG 15-05 notes that the estimates from the French study are substantially higher (51%) than those observed in other studies, e.g. 30% observed by Wileman et al, (1999) while the studies presented for *Nephrops* in Portuguese waters of ICES Division IXa had a mean survival rate of 35%, which is close to earlier studies (e.g. Wileman et al, 1999).

15-05 considers that the methodological approach used is broadly appropriate for both the Portuguese and French studies, but notes specifically that the short observation period used in the French study is

likely to have led to a significant underestimation of captive survival. Work presented by Wileman *et al* (1999) as well as the proposal for an exemption based on high survival presented in the North Sea plan (see sections 3.7.2) demonstrate that deaths are still occurring up to 10-12 days in captivity before the mortality rate stabilised and therefore the observation period used in survival should be shown to plateau (reach asymptote) in order to provide a reliable estimate of captive survival rates Figure 3.11-1.



**Figure 3.11-1 Comparison of mortality estimates following 3 days in captivity (solid circle) and following 10 days in captivity (dashed circle) associated with *Nephrops* trawls equipped with two different selectivity devices.**

The data presented for the exemption for otter trawls and creels in ICES Division IIIa showed a mortality rate of 10% at day 3 rising to 25% and plateauing after day 11 in the case of Grid trawl and at 20% rising to 38% and plateauing after day 12 in the case of the SELTRA trawl (Figure 3.11-1).

Furthermore, the work presented by Castro *et al* (2003) shows a significant difference in discard survival between seasons. Discard captive survival was found to be significantly lower (30.5%) during periods of “warm” weather (ca. 20°C) than during periods of “colder” (48.4%) weather (ca. 14°C).

EWG 15-05 concludes that the experimental design was appropriate as a method to assess the captive discards mortality in the fishery and that the replication of trials across different periods allows for an assessment of survival between different periods. However, EWG 15-05 notes that in the case of the French studies, the observation period to assess mortality was too short to allow for a conclusive estimate of captive survival. This is based on the data presented in ICES Division IIIa and that of Wileman *et al* (1999) which clearly showed a continued increase in mortality beyond 3 days of captive observation which was the maximum period of observation of the experiments presented here. Therefore EWG 15-05 concludes that limiting the observation period to only 3 days is likely to have resulted in an underestimation of the overall captive mortality estimate and this is likely to be substantially lower than the 51% survival rate presented in the JR. EWG 15-05 considers that further experiments with extended observation periods (10-15 days) would be required to provide a more robust estimate of captive discard survival. EWG 15-05 notes that there are ongoing studies in the region aimed at improving the knowledge base relating to *Nephrops* discard survival.



EWG 15-05 notes that the results of Castro *et al* (2003) and referred to in the Joint Recommendation indicate that captive survival rates of ~35%. EWG 15-05 cannot quantify the potential post discard predation mortality. Furthermore, EWG 15-05 cannot conclude whether this constitutes high survivability but notes that the estimate is similar to previous studies (i.e. Willeman *et al*, 1999) used by ICES as the basis of discard survival.

#### 4 CONCLUSIONS

Given the subjective nature of the conditionalities (high survival, disproportionate costs, technically very difficult) and in the absence of any guidance, it is not possible for EWG 15-05 to draw any conclusions on whether the conditionalities have been met and whether there is sufficient basis to approve an exemption.

EWG 15-05 has provided a series of observations on each of the exemptions and has identified a number of elements that require further clarifications or data. In general terms, these are as follows:

- The definition of the fleets that are to be subject to the LO as there are some inconsistencies between the JRs and the technical annexes.
- How de minimis catches were to be allocated and to which fleet segments as in some case it appears that de minimis allocations would be distributed beyond the range of vessels covered by the LO.
- Lack of landing and discard data associated with the fleets/vessels subject to the LO which is necessary to estimate of their relative contribution to the overall catches of the stocks concerned and the potential volumes of de minimis catches that may be attributed/allocated to them.
- General of information regarding the number of vessels involves which coupled with the paucity in catch data makes any potential assessment of the scale of de minimis catches problematic.

In the case of exempting *Nephrops* from the landing obligation on the basis of high survival, it is not possible for EWG 15-05 to determine whether the results from the various studies constitute high survival as this is subjective. However, the studies relating to pots and creels demonstrate consistent survival rates in excess of 80% and are at the upper end of survival rates observed across a number of experiments (12-88%).

The high variability in *Nephrops* survival between experiments is likely due to a number of environmental and fishery specific factors such as exposure, ambient air and sea temperature, on-board sorting processes and duration etc. The results from experiments to assess the survival of *Nephrops* in trawls fitted with species selective gears give survival rates that are at the median or upper end of those of other studies. It is likely that the results are due to favourable environmental conditions and reduced sorting time. EWG 15-05 notes that further experiments are planned during the autumn and considers it appropriate to await the outcome of these results before managers make a decision regarding high survivability.

Noting the high level of variability between and within fisheries, EWG 15-05 consider it advisable not to assume that the results from specific trials can be readily transferred across fisheries and that a decision on whether to grant an exemption for *Nephrops* in IV on the grounds of high survivability would be better informed if dedicated survival studies were undertaken in the fishery for which the exemption is being sought.

STECF also considers that the duration of the observation period to assess the survival of discarded animals is sufficient and to a point that there are no, or very few additional deaths occurring so that

cumulative rate of mortality reaches an asymptote. STECF notes that of the few studies available the rate of mortality is highly variable, in some cases the majority of deaths occur within 48hrs of discarding, whereas in others, there are still significant mortalities after 4-5 days observation.

With regard to the reduction in minimum size for *Nephrops* EWG 15-05 considers that the risk to the population is small although any increase in mortality of smaller individuals (>50% maturity) from current levels will likely result in lower  $F_{MSY}$  values and therefore reduced yields.

## 5 CONTACT DETAILS OF STECF MEMBERS AND EWG-15-15 LIST OF PARTICIPANTS

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## 6 LIST OF BACKGROUND DOCUMENTS

Background documents are published on the meeting's web site on:

<https://stecf.jrc.ec.europa.eu/ewg1505>

List of background documents:

1. EWG-15-05 – Doc 1 - Declarations of invited and JRC experts (see also section 5 of this report – List of participants)
2. Joint recommendations for to the following fisheries:
  - a) NWW demersal: fisheries
  - b) SWW demersal fisheries
  - c) North Sea demersal fisheries

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European Commission

EUR 27407 EN – Joint Research Centre – Institute for the Protection and Security of the Citizen

Title: Scientific, Technical and Economic Committee for Fisheries. – Landing Obligation - Part 5 (demersal species for NWW, SWW and North Sea) (STECF-15-10).

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Luxembourg: Publications Office of the European Union

2015 – 62 pp. – 21 x 29.7 cm

EUR – Scientific and Technical Research series – ISSN 1831-9424 (online), ISSN 1018-5593 (print)

ISBN 978-92-79-50551-5

doi:10.2788/692447



## STECF

The Scientific, Technical and Economic Committee for Fisheries (STECF) has been established by the European Commission. The STECF is being consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations.

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ISBN 978-92-79-50551-5

