

Annex XIII

De minimis exemption request for the vessels using bottom trawl (OTB, OTT, PTB, TBB) of mesh size 70-99mm (TR2, BT2) to catch mackerel in ICES subarea 6 and 7b-k

In the framework of the landing obligation in accordance with article 15 of regulation (EU) N° 1380/2013, a de minimis exemption is requested for mackerel caught with demersal vessels using bottom trawls (OTB, OTT, PTB, TBB) with a mesh size 70-99mm in ICES subareas 6 and 7b-k, up to 7% in 2019 and 2020, 6% in 2021 and 2022 and 5% from 2023 of the total annual catches of mackerel caught in demersal fisheries.

The request for an exemption for de minimis is based on article 15.c.i), due to difficulties to further increase selectivity in this mixed fishery, and on article 15.c.ii), due to disproportionate costs a total application of the landing obligation would cause in this fishery. The fleet is particularly vulnerable for the risk of commercial catch losses an improvement in selectivity would cause.

Definition of the species and the stock

Mackerel (subareas 1–8 and 14, and in Division 9.a): ICES advises that when the MSY approach is applied, catches in 2018 should be no more than 550 948 tonnes. The spawning-stock biomass (SSB) is estimated to have increased in the late 2000s and has remained above $MSY B_{trigger}$ since 2008. The fishing mortality (F) has declined from high levels in the mid-2000s, but remains above FMSY and below F_{pa} . Discarding is known to take place, but is only quantified for part of the fisheries; the proportion of the landings covered cannot be calculated. Partial discard estimates are included in the assessment and overall discarding is assumed negligible. The stock is in safe biological limits as defined in the CFP.

Definition of the management unit

Characteristics of the TR2 fishery and its activity

The trawlers with a codend mesh size range 80-100mm is the fishery with second highest effort in Celtic Sea, accounting for 18% of the total effort. It is less widespread than the TR1, and the main 13 fishing areas are localized in ICES 7e, close to the English and French shores, and in 7g, close to the Irish shore. The TR2 fishery in the Celtic Sea is mainly characterized by: 1) fishery for Norway lobster (termed 'Nephrops') operated mainly by Irish trawlers. There are significant Nephrops fisheries in the Smalls, Labidie and Porcupine bank that are not shown in the effort maps; 2) mixed fishery targeting anglerfish, gadoid species and non-quota species (cuttlefish and squid), taking place in VIIe close to the English and French shore; 3) Spanish-mixed fishery (otter trawl with codend mesh size 70-99mm) targeting flatfish, principally megrims and anglerfish, with hake as one of the main by-catches. Effort is distributed on shallow waters of Grand Sole and Porcupine Bank fishing mainly in Division 7j. According with the STECF data, most of the TR2 effort is mainly operated by English and French vessels, however most of the Spanish effort in the Celtic Sea are TR2 and is likely to be underestimated due to a lack of data.

The French vessels that would be concerned are mainly bottom otter trawlers. In 2016, 152 vessels were having this activity, mainly in the Western channel (Cornou et al. 2017).

Characteristics of the BT2 fishery and its activity

Composition of catches, landings and discards

When they are targeting demersal species, bottom trawlers are catching a group of varied species, which several are under TAC management: nephrops, anglerfish, haddock, etc. but sometimes also pelagic species, such as horse-mackerel that is potential choke species for those vessels. Based on STECF database we tried to establish a catch and discard profile for those vessels.

It is important to notice that data used are not always representative, thus an extreme care on the interpretation and use of the estimates presented below is needed. The nonrepresentativeness of discard data in general and the mixed character of those fisheries make hard to establish a profile discard and to estimate which quantity of every species could be discarded under the use of a de minimis as presented here. Nevertheless, it gives us a general idea based on the best data available for now (STECF data). It is also important to notice that discards and catches may highly vary from a year to another.

Based on the estimates, catches of mackerel represents approximately 3.5% of the total TAC species catches.

For TR2 and BT2, the STECF data base indicates that the discard ratio of TAC species between 2013 and 2016 is around 45% and that the discard of mackerel represents 4.7% of the total TAC species catches. The French data observer program indicates an overall discard rate for the French bottom trawls fisheries of around 30% in 2016 (Cornou et al., 2017).

Table 1. Proportion of the mackerel discarded , for the European fleet using bottom trawl (TR2 and BT2) in in ICES subarea 6 and 7b-k, according to STECF data (STECF data base 2013-2016).

	Proportion in the catches (%)	Proportion of the catches discarded (%)	Proportion in the discards (%)
2013	5%	67%	6%
2014	4%	44%	4%
2015	4%	68%	6%
2016	1%	49%	2%

Specifying de minimis volume

Discard volume

Based on STECF data (average 2013-2016), we established a discard profile in order to estimate maximum volumes of horse-mackerel that would be theoretically discarded under a de minimis as presented in this case. All precautions shall be taken in interpreting and using those estimates as discards can vary significantly from a year to another due to the aleatory specificity of fishery activity. Moreover, data used are not always representative. Nevertheless, estimates present hereafter can give a general idea of maximum volume discard estimates.

Those data present an average of catch and discard data for 2013, 2014, 2015 and 2016 (STECF data base).

Based on STECF database, TR2 and BT2 vessels in the North Western Waters (ICES 6, 7b-k) caught 284 140 tonnes of TAC species (average 2013-2016) of which 10 085 tonnes were mackerel catches. Thus, a de minimis of 7% would represent theoretically a maximum volume of discards of 706 tonnes (for all European vessels using TR2 and BT2 gear in the North Sea).

Recent works on selectivity measures

Vessels having a mixed activity catch simultaneously a diversity of species during the same fishing operation. They are depending financially on several species (whiting, haddock, cod, megrims,

cephalopods) but also to some pelagic species, which can be spatially and temporally related and so be caught as by-catches. Thus, it is very difficult to improve selectivity without causing significant commercial losses.

In addition to those situations of choke species, landing application enforcement may generate disproportionate costs due to hold overloading and increase the sorting time by the crew. Those arguments justify this de minimis request also for disproportionate costs. Some studies demonstrate those aspects such as EODE program (Balazuc et al. 2016). Per the study, in bottom trawler case, total landing obligation enforcement would cause a workable time increase on board of around 30% to 60%, depending on vessel size. Besides, 20% of fishing trip could be concerned by hold overloading issues.

This specificity of mixed demersal fisheries justifies this exemption request due to this difficulty to improve the selectivity. Several results can attest of commercial catch losses linked to selective gear tested until now on mixed gadoids fishery in the English Channel (SELECCAB, SELECMER...). For example, the SELECMER program reveals commercial losses between 30% and 36% (pages 49, 54, 59) with the use of different selective devices aiming to reduce cod and small whiting catches (selective grid, eliminator trawl, square mesh, etc.).

Moreover, square mesh cylinder, articulated rigid grid and semi rigid grid have notably been tested to improve the overall selectivity of this fishery, including demersal and pelagic species. These exercises were difficult due to the mixed nature of this fishery. Indeed, results are heterogeneous: the decreasing of discards for one or more species leading to severe economic impacts on the others species caught. For example, a decrease of 56% of the discards with articulated rigid grid and square mesh cylinder lead to a commercial loss about 36% (vessels \geq 18m). Furthermore, some of the selective devices tested were particularly difficult to install and handle by the crew (articulate grid).

All French bottom trawlers fishing in the Channel are equipped with a square mesh panel 80 mm they keep. It gives consistency to this exemption that is also asked for the North Sea since these vessels work in Southern North Sea and in the Eastern Channel.

In order to improve the selectivity in the fisheries, the French fishing industry has set up two selectivity projects since 2014. Through these two projects, the French industry wants to provide a tool box to skippers. This idea is justified by the fact that all the selectivity experiments show that the escapement of the same selective device can be highly variable across fleets, gears, seasons, etc. So there is not a "one fits all" solution and the fisherman might have a choice between several selective devices in order to choose the one that fits is activity.

The first one, CELSELEC (project that took place between 2014 and 2017), was carried out on French bottom trawlers operating in the Celtic Sea and Western Channel, with the aim of decreasing their discards. Three basic devices were selected for the trials, according to the main fisheries:

- Extension + codend in meshes turned by 90° ("T90") 100 mm mesh size;

The use of the T90 meshing in the extension and codend offers an answer to the problem of choke species for fishing fleets operating on the West of the Celtic sea, by reducing appreciably the catches of boarfish, **mackerel** and horse mackerel, which can represent important volumes in punctual and not predictable catches (**75-85 %** reduction of the discards in weight). The interest of this device is also demonstrated to reduce the catches of young gadoids, mainly haddock and whiting. Losses of these commercial species can exist in some cases, but these volumes do not seem to affect the very positive perception by the skippers of the use of this type of trawl. The implementation of this technique is simple and the global reduction of the volume of catches allows on one hand to limit the work of sorting on board and on the other hand to improve the quality of the valued part. It is important to note that the results are homogeneous in the various situations of use (boat, fishing zone, season ...). The

recognized efficiency of trawls equipped with an extension in 100mm T90 meshes led to an extension of their use for the fleet operating in Celtic Sea. It is not appropriate for the squid season, due to severe commercial losses.

- 100 mm square meshes cylinder - SMC - (in addition to the mandatory 100mm and 120 mm square mesh panels - SMP) with or without scaring floats;

The results obtained for the 100mm square mesh cylinder are less marked, even if the escape of the small individuals of gadoids seems improved. The adjustment of the positioning of the device remains difficult to define and follow-up studies should be led to optimize the technical configurations. In the same way, the interest of the use of a scaring device remains to demonstrate

- Monkfish / Skates / Megrim grid (semi-elliptic).

The second project, named REJEMCELEC has been going on for two years and it is ending in 2018. It was set in a complementary way to the CELSELEC project in order to reduce whiting, haddock and pelagic discards for single bottom trawlers fleets targeting whiting, squids, cuttlefish and monkfish within the Western Channel. Here below some devices that has been tested:

- Large square mesh panel (90 mm gauge) on the « baitings » (last tapered section)

Pelagic fishes such as **mackerel** or sardine seem to be able to escape as they can swim fastly in the upper part of the trawl but the result on haddock is not relevant.

- Square mesh panel (80 mm gauge) on the « baitings » (last tapered section)

This device has a positive effect on mackerel with a reduction of under size catches of 90% but a commercial loss is observed on the third commercial grade of mackerel. This loss could probably be supported by the vessels.

- Square mesh panel (80 mm gauge) on the « baitings » and the extension, and 4 faces codend

This selective device is appropriate to reduce haddock discards but the 80 mm square mesh seems to be too large for the vessels targeting whiting. In addition, there are probably some commercial losses on squids and red mullet. Finally, it has a good impact on mackerel with a reduction of the unwanted catches by 78% (for all stages).

- T90 panel (80 mm gauge) on the «baitings» and the extension, and 2 faces codend

This has a good impact on mackerel with a reduction of the unwanted catches between 78 and 95% (for all stages). Moreover, there are no commercial losses for haddock and whiting.

Conclusion

According to the fact that:

- Catches of mackerel are really low (< 5%), i.e the selectivity is already really high for this species in the bottom trawl fishery;
- Almost 50% of the catches of mackerel are discarded
- Selectivity improvement by regulatory measures to avoid the catches of mackerel will be hard to achieve without severe economic impacts on the revenue of the boats;
- De minimis exemptions can provide the flexibility to the fishermen to adapt their behaviour to such regulation frame.

A de minimis exemption of 7% is requested for mackerel (*Scomber scombrus*) for the vessels using bottom trawl gears (BT2 and TR2) in ICES subarea 6 and 7b-k. for the year of the discard plan. According to the STECF data base, and only for illustrative and informative purposes, a de minimis of 7% would represent a maximum amount of allowed discard for mackerel of 706 tonnes. This amount is

very limited when compared to the whole TAC for mackerel in ICES areas 6, 7, 8abde, 5b (816 797 t in 2018): less than 0.1% of the total TAC.

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