

**ANNEX IV Report to support the request for by-catches of the following pelagic species: horse mackerel (*Trachurus spp.*), mackerel (*Scomber scombrus*), anchovy (*Engraulis encrasicolus*) and boarfish (*Caproidae*), a combined de minimis for the species up to a maximum of 7% in 2019 and 2020, and up to a 6% in 2021 of the total annual catches of these species made by trawlers (gear codes : OTT, OTB, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB, TBB, SDN, SX, SV) in fisheries in ICES divisions VIII and IX.**

In the framework of the landing obligation in accordance with article 15 of regulation (EU) N° 1380/2013, a de minimis exemption obligation is requested for pelagic species (mackerel, horse mackerel, boarfish and anchovy) caught with demersal vessels using bottom trawls (OTB, OTT, PTB, OT, PT, TBN, TBS, TX, SSC, SPR, TB, TBB, SDN, SX, SV) in ICES subarea 8abde and 9, up to 7% in 2019 and 2020 and 6% after 2020 of the total annual catches of those species 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.

## Summary

Motive .....	1
Definition of the species .....	2
Definition of the management unit .....	3
Specifying de minimis volume .....	4
Reference .....	6
Annexes.....	7

### Motive

Vessels having a mixed activity catch simultaneously a diversity of species during the same fishing operation. They are depending financially on several species (Nephrops, anglerfish, cephalopods, etc.) but also some pelagic species which can be spatially and temporally related. Thus, it is very difficult to improve selectivity without causing significant commercial losses.

This difficulty is even truer regarding the differences of those species morphology. Moreover, even with all scientists' efforts on developing mixed species models, it is for now unreal to

find the appropriate balance between fishing opportunity taking into account technical and biological interactions. That is why, besides the description of choke species issues linked to this activity (mixed fisheries), it is highly necessary to establish suitable solutions.

This specificity of mixed demersal fisheries justifies this exemption request due to this difficulty to improve the selectivity.

Therefore, there are situations where TAC cannot be entirely consumed without overconsuming the TAC of another stock exploited simultaneously.

In addition to those situations of choke species, landing application enforcement may generate disproportionate cost 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*). According to 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. This de minimis request aims at giving some flexibility needed for fishermen, exercising bottom trawler metier, to implement the landing obligation.

### **Definition of the species**

All pelagic fish under landing obligation are concerned by this exemption. Pelagic fish inhabit the water column (not near the bottom) of coasts, open oceans, and lake (*National Ocean Service*).

Below, the states of the stocks affected by this exemption, according to ICES:

- 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  $F_{MSY}$ . 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.

- Horse-mackerel (Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k): ICES advises that when the MSY approach is applied, catches in 2018 should be no more than 117 070 tonnes. The stock and the fishery are very dependent on occasional high recruitments. Recruitment from 2002 onwards has been low; however, recruitment in the last three years is above the geometric mean (1983–2016). In recent years, SSB has been declining and is currently the

lowest observed in the time-series, below  $MSY B_{trigger}$ . Fishing mortality increased from 2007, but dropped in 2015–2016 and is currently below  $F_{MSY}$ .

- Horse-mackerel (Division 9.a (Atlantic Iberian waters)): ICES advises that when the MSY approach is applied, catches in 2018 should be no more than 55 555 tonnes. Fishing mortality has been below  $F_{MSY}$  over the whole time-series. The spawning-stock biomass (SSB) has been above  $MSY B_{trigger}$  over the whole time-series and has slightly increased in recent years. Recruitment (R) in 2011–2015 has been above the time-series average.

- Anchovy (Subarea 8 (Bay of Biscay)): ICES advises that when the management strategy is applied, catches in 2018 should be no more than 33 000 tonnes. The spawning-stock biomass (SSB) has been above  $B_{lim}$  since 2010. Recruitment and SSB have been well above the historical average in recent years. The incoming recruitment (age 1) in 2018 is the third highest in the historical series. Harvest rates since the reopening of the fishery in 2010 have been below average.

- Boarfish (subareas 6–8 (Celtic Seas, English Channel, and Bay of Biscay)): ICES advises that when the precautionary approach is applied, catches should be no more than 21 830 tonnes in each of the years 2018 and 2019. The relative stock biomass was stable until 2009, and then increased in 2010–2012 before declining rapidly in 2013 and 2014. Since 2014, relative biomasses have been stable but lower than previously.

### **Definition of the management unit**

#### **Characteristics of the bottom trawl fishery and its activity**

The SWW Discard Atlas reports that two French fisheries of TR2 and TR1 exist in ICES subarea 8:

- Bottom-trawlers targeting demersal fishes and cephalopods in the Bay of Biscay. The vessels which operate this metier use a bottom otter-trawl or otter twin trawls in ICES areas 8a, b ; Trip duration varies from 1 to 14 days with an average 4 days.

- Bottom-trawlers targeting Nephrops in the Bay of Biscay. The vessels which operate this metier use a bottom otter-trawl or otter twin trawls to target Nephrops in ICES areas 8a, b.

#### **Composition of catches, landings and discards**

When they are targeting demersal species, french bottom trawlers are catching a group of varied species, which several are under TAC management: whiting, Nephrops, megrim, gurnard, etc. but also pelagic species, such as horse-mackerel, mackerel, boarfish etc. Therefore, those species are potential choke species 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. It was not possible to use the STECF data to establish a profile discard and to estimate which quantity of every species could be discarded under the use of a de minimis as the data base presents some inconsistency with all national observation programs.

The nonrepresentativeness of discard data in general and the mixed character of those fisheries makes hard to establish a profile discard and to estimates which quantity of every species could be discarded under the use of a de minimis as presented here. 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, horse mackerel, boarfish and anchovy represent approximately 7% of overall catches (cf. fig 1).

Species	Proportion in the catches (%)	Proportion of the discards (%)
mackerel	4.0%	4.2%
boarfish	1.9%	6.1%
horse mackerel	1.2%	1.7%

**Figure 1:** Proportion of the catch discarded by species, for the French fleet using bottom trawl in the Bay of Biscay, according to French data (Obsmer 2016).

The French data observer program, *Obsmer*, indicates an overall discard rate of around 42% in 2016 (Cornou *et al.*, 2017).

The main TAC specie discarded are Nephrops and anglerfish. Discards of mackerel, boarfish, anchovy and horse mackerel represent approximately 12% of overall discards.

## Specifying de minimis volume

### Discard volume

Based on the *Obsmer* data of 2016 (see annexe I), we established a discard profile in order to estimate maximum volumes of species 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 specify of fishery activity. Moreover, data used are not always representative. Nevertheless, estimates present hereafter can give a general idea of maximum volume discard estimates.

Based on annex II, French mixed demersal vessels in ICES subarea 8abcd caught in 2016 19 690 tonnes of TAC species of which 1 599 tonnes were mackerel, boarfish, anchovy and horse mackerel catches. Thus, a de minimis of 7% would represent theoretically a maximum volume of discards of 112 tonnes (for all French bottom trawl in ICES 8 and 9).

- Mackerel: 35% of the total of mackerel, boarfish, blue whiting and horse mackerel discards volume

- Horse mackerel: 14% of the total of mackerel, boarfish, blue whiting and horse mackerel discards volume
- Boarfish: 50% of the total of mackerel, boarfish, blue whiting and horse mackerel discards volume

### **Safeguards**

This de minimis would respond partly in how to implement landing obligation in specific fisheries where it is difficult in a 2019 scenario to implement it. Also this de minimis has its limits and its risks. It is true that the combination of several species can represent a high volume of possible discards. Nevertheless, it will never be more than 7% of the catches concerned.

As said before, volume and composition of catches can be unpredictable and vary from a year to another. It is also important to emphasize that, because of the mixed character of the fisheries it is highly unlikely that only one species would be discarded. This is all the point of a combined de minimis: giving some flexibility needed for fisherman to face the variability of by-catch stocks abundance.

Nevertheless, in order to limit the risk of discarding only one species and because discard rate can be significantly different from a species to another it is propose to put in place safeguard.

Here after is a proposition of safeguards that need to be evaluated and discussed:

According to the discard profile of the fishery (see annexe I), a margin on 25% shall apply. This margin would allow the flexibility needed to face the variability of catches and discards. On the overall discard volume permitted by this exemption, only the proportion calculated (+25%) could be discarded on the overall discard. In this case, and taking all precaution in using those data, this would allow fishermen to discard (see annexe II):

- Mackerel: a maximum of 43% of the total of mackerel, boarfish, blue whiting and horse mackerel discards volume
- Horse mackerel: a maximum of 18% of the total of mackerel, boarfish, blue whiting and horse mackerel discards volume
- Boarfish: a maximum of 63% of the total of mackerel, boarfish, blue whiting and horse mackerel discards volume

**Those safeguards should be revised if necessary and according to discard profile that can evolve over the years.**

Only for informative purpose, theoretical volumes of discards are presented in Annex II.

## Reference

- Balazuc A., Goffier E., Soulet E., Rochet M.J., Leleu K., 2016. EODE – Expérimentation de l'Obligation de DEbarquement à bord de chalutiers de fond artisans de Manche Est et mer du Nord, et essais de valorisation des captures non désirées sous quotas communautaires, 136 + 53 pp.
- Cornou Anne-Sophie, Quinio-Scavinner Marion, Delaunay Damien, Dimeet Joel, Goascoz Nicolas, Dube Benoit, Fauconnet Laurence Rochet Marie-Joelle (2015). Observations à bord des navires de pêche professionnelle. Bilan de l'échantillonnage 2014.  
<http://archimer.ifremer.fr/doc/00286/39722/38188.pdf>
- Cornou Anne-Sophie, Quinio-Scavinner Marion, Delaunay Damien, Dimeet Joel, Goascoz Nicolas, Dube Benoit, Fauconnet Laurence Rochet Marie-Joelle (2016). Observations à bord des navires de pêche professionnelle. Bilan de l'échantillonnage 2015.  
<http://archimer.ifremer.fr/doc/00353/46441/46185.pdf>
- Cornou Anne-Sophie, Quinio-Scavinner Marion, Delaunay Damien, Dimeet Joel, Goascoz Nicolas, Dube Benoit, Fauconnet Laurence Rochet Marie-Joelle (2017). Observations à bord des navires de pêche professionnelle. Bilan de l'échantillonnage 2016.  
<http://archimer.ifremer.fr/doc/00353/46441/46185.pdf>
- ICES 2017a. Horse mackerel (*Trachurus trachurus*) in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k (the Northeast Atlantic)  
<http://ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/hom.27.2a4a5b6a7a-ce-k8.pdf>
- ICES 2017b. Mackerel (*Scomber scombrus*) in subareas 1–8 and 14, and in Division 9.a (the Northeast Atlantic and adjacent waters)  
<http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/mac.27.nea.pdf>
- ICES 2017c. Boarfish (*Capros aper*) in subareas 6–8 (Celtic Seas, English Channel, and Bay of Biscay)  
<http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/boc.27.6-8.pdf>
- ICES 2017d. Anchovy (*Engraulis encrasicolus*) in Subarea 8 (Bay of Biscay)  
<http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/ane.27.8.pdf>
- NATIONAL OCEAN SERVICE  
<https://oceanservice.noaa.gov/facts/pelagic.html>

## Annexes

### ANNEX I - Catch and discard by country

*Of the French demersal fisheries in (ICES 8abcd) in 2016*

LANGOUSTINIER				
	% catch	% discard	catch	discard
nephrops	41%	27%	6228.0855	2025.395
hake	16%	19%	2418.231	1452.17
anglerfish	3%	1%	463.8745	76.43
sole	2%	1%	365.016	38.215
megrim	3%	2%	395.434	129.931
whiting	2%	1%	304.18	45.858
horse macke	1%	2%	182.508	129.931
blue whiting	1%	3%	212.926	206.361
TOTAL	70%	54%	10570.255	4104.291
MIXTES				
	catch	discard	catch	discard
anglerfish	7%	2%	1710.98133	191.916667
megrim	10%	2%	2518.048	148.05
hake	3%	3%	714.254	271.425
boarfish	2%	6%	460.028	501.725
haddock	2%	1%	411.604	57.575
mackerel	4%	4%	956.374	345.45
whiting	5%	5%	1210.6	370.125
sole	5%	2%	1137.964	123.375
TOTAL	38%	24%	9119.85333	2009.64167

*Source : Obsmer data*

*Of the Spanish demersal fisheries in (ICES 8abde) in 2015, 2016 and 2017*

Species	Estimated Discards	Estimated Catch	Discard of the species Rate
Anchovy	176.80	176.80	100%
Horse Mackerel	1902.26	1845.76	94%
Boarfish	6.60	6.60	100%
Mackerel	1257.13	1046.28	62%

*Of the Spanish demersal fisheries in (ICES 8c,9) in 2015, 2016 and 2017*

Species	2015		2016		2017	
	Estimated Discards	Estimated Catch	Estimated Discards	Estimated Catch	Estimated Discards	Estimated Catch
Boarfish	426.301	426.301	559.078	559.078	307.883	307.883
Mackerel	9577	24188.622	3137.313	16603.151	120.114	5140.75
Anchovy	0.575	0.575			19.986	19.986
Horse mackerel	1784.012	14181.122	244.78	5697.811	196.726	9623.83

*Of the Portuguese demersal fisheries in (ICES 8e and 9) in 2015, 2016 and 2017 (catch only)*

Species	Trawl		otter trawl	
	%	tonnes	%	tonnes
ANE	0.026%	8.586	0.039%	0.900
BOC	0.000%	0.002	0.000%	
JAX	55.512%	18 239.409	0.000%	
MAC	13.434%	4 413.967	0.000%	
Other species	31.028%	10 194.603	99.961%	2 311.337
Total	1.000	32 856.567	1.000	2 312.237

Annex II - Specifying de minimis for 2019 of the French bottom-trawl fleet in ICES subarea 8abcd

Species subject to the DM	Total catch	Estimated discard share composition on overall catches	Estimated discard share composition (DS)	Maximum volume of discard a 2% DM (in tonnes)	Maximum volume of discard a 3% DM (in tonnes)	Maximum volume of discard a 4% DM (in tonnes)	Maximum volume of discard a 5% DM (in tonnes)	Maximum volume of discard a 6% DM (in tonnes)	Maximum volume of discard a 7% DM (in tonnes)	Applicable rules for DM use	Maximum discard share	Estimate of Maximum volume under a 7% de minimis
JAX	182.508	2%	14.2%	4.5	6.8	9.1	11.3	13.6	15.9	25% of the	17.7%	19.8
MAC	956.374	4%	35.0%	11.2	16.8	22.4	28.0	33.6	39.2	estimated	43.8%	49.0
BOR	460.028	6%	50.8%	16.3	24.4	32.5	40.6	48.8	56.9	discard	63.5%	71.1
Total	1599	12%	100%	32.0	48.0	64.0	79.9	95.9	111.9	share		