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Effect in mean catch and biomass index of removing stations in the closed Coral, Sponge and Seapen Protection Areas in the design of the EU Flemish Cap survey

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Abstract

Introduction

In 2008, the WGESA (formerly WGEAFM), has born with the aim to help Scientific Council in conduct NAFO into an Ecosystem Approach (EA) to Fisheries following the guidelines made by the FAO in 2003 (FAO, 2003). The purpose of an ecosystem approach to fisheries is to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options for future generations to benefit from the full range of goods and services provided by marine ecosystems. In 2009, the Fisheries Commission determined several coral and sponges protection closures areas to fisheries within the NAFO Regulatory Area that started to be applied in 2010.

Spain and EU (Portugal and Spain) have performed a series of trawl surveys in NAFO Regulatory Area Divs. 3NO (since 1988), in Div. 3L (since 2003) and in Div. 3M (since 1988). These surveys were design prior to implementation of any closed area and provide crucial data for several fish stock assessments, as well as they have provided significant if not the bulk of the information for the knowledge and definition of the closed areas. These surveys have a stratified design over the total area of the Divisions, the number of random hauls in each stratum is proportional to the stratum area. The location of the hauls can eventually be inside of the closed areas.

During it 2015 meeting, WGAEFFM recommends that *SC considers options to expedite risk assessment of scientific trawl surveys impact on VME in closed areas, and the effect of excluding surveys from these areas on stock assessments*. In this paper, the consequences of removing the closed areas from the design of the 3M survey are investigated.

Material and Methods

Data from the EU Flemish Cap survey during the years 1988-2015 were used in this study. The hauls which their starting or ending point were inside a closed area were considered that were performed inside the closed areas. New survey indices were estimated taking out the hauls that

were considered inside the closed areas. New mean catch per mile indices (strata with only one haul were included without its SD but the ones with 0 hauls not) were calculated and then converted into biomass using the respective area. These calculations were made for the species assessed by the NAFO Scientific Council (Atlantic cod, American plaice, roughhead grenadier, shrimp, Greenland halibut, *Sebastes mentella* and *Sebastes fasciatus*) and for *Sebastes marinus* and *Sebastes juveniles*, and compared with the results with all the hauls (Alpoim and González-Troncoso, 2016).

Results

Number of hauls

In Table 1, the stratification scheme and the area of the strata, with and without the closed areas (calculated with the QGIS software) is presented. We can see that in some cases the closed area is more than the 30% of the total area, being for the strata 31 50%. As the closed areas are all in the deeper depths, strata between 1 and 13, as well as strata 16, are not affected. Some of the deeper strata are barely or not affected (stratum 20, 32, 33 and 34). Figure 1 shows the stratification of the Div. 3M (Bishop, 1994) used during the EU surveys .

Table 2 shows the number of valid hauls by strata during 1988-2015. Between 1988 and 2003, only the shallower strata were prospected. We can observe that the minimum number of valid hauls by stratum is 2, except in the strata 17 during two years (1993 and 2011), in which only 1 haul was performed. And during 1993 there were two strata not surveyed, 14 and 18. Figure 2 presents the position of the hauls during the whole time series. It can be seen there are some areas that are barely or never prospected as the bottom is not appropriate. For example, the north part of the stratum 29 only was prospected inside the closed areas.

Table 3 and Figure 3 present the number and the percentage of valid hauls in the closed areas during the years 1988-2015. The most affected strata are the 19 and the 29, with 31 and 30 hauls, respectively, in the closed areas during the entire period. Take into account that in the case of stratum 29, we count the hauls only from year 2004. The less affected strata are 14 (2 hauls), 23 and 31 (4 hauls each). There are some cases in which all the hauls made are in the closed areas (stratum 18 in 1988 and 1992, stratum 25 in 2007, 2008 and 2011), some cases in which the hauls are more than 65%, and many cases in which the hauls in closed areas are the 50% of the total. This percentage could have more or less impact in the total results depending of the total number of hauls made. In Figure 4 we can see the position of the hauls in the map.

Table 4 presents the subtraction between Table 1 and Table 2, so the number of total hauls in the total area that remains after removing the hauls in the closed areas. As there is no stratum totally closed, the cases with 0 hauls remained are few: stratum 18 in 1988 and 1992 and stratum 25 in 2007, 2008 and 2011 (in green in the table) (corresponding to the strata pointed out in the paragraph above). But the cases in which only one valid haul remains, and so we have no way to calculate standard error, are 40. Stratum 17 has in total 12 years with just 1 haul, and stratum 18 a total of 15 years with just 1 haul. As these are strata in shallower depths, species with a shallow distribution could be affected. But it was expected that strata from deeper depths be more affected.

Results by species

Results for mean catch per mile and biomass, with their SD, by stratum and total, of 9 different species are presented: Atlantic cod, American plaice, roughhead grenadier, shrimp, Greenland

halibut and the species of the genus *Sebastes*: *S. fasciatus*, *S. mentella*, *S. marinus* and *S. juveniles* (that can not be assigned to a specific species).

The **Atlantic cod** (Tables 5a and 5b, Figure 5) is a shallow species, and its distribution is in general in depths less than 550 m (strata 1-15) (Nogueira *et al.*, 2015). For that, this species is barely affected by the removing of the closed areas. The differences in the mean catch are very small. With regards to uncertainty, if we look to the indices at least than 700 m (2004-2015), the loss is very small. If we extend the study until 1400 m the differences are higher, being around 7% more uncertainty without the closed areas. But the use of the index until 1400 m in this species is not justified.

The **American plaice** (Tables 6a and 6b, Figure 6) is, as the Atlantic cod, a shallow species, than in general prefers depth of less than 550 m (strata 1-15) (Nogueira *et al.*, 2015). For that, its indices are not really affected by the removing of the hauls in the closed areas, mainly in the indices of less than 700 m (just around 2%). The differences are bigger for the index until 1440 m, but the use of this index in this species is not justified.

The **roughhead grenadier** (Table 7a and 7b, Figure 7) is a deep species which indices would be deeply affected by the removing of the hauls in the closed areas. This species prefers depths more of 550 m (strata > 16) (Nogueira *et al.*, 2015). As a mean, the differences in biomass is around 20%, although in some years it reaches more than 57% (2011 and 2012 at depths of less than 700 m, coming from removing catches in strata 18 and 17, respectively) being higher the indices calculated with all the hauls. However, the uncertainty is less if we take out the hauls in the closed areas, probably because the catches of this species are very scattered.

The **shrimp** (Table 8a and 8b, Figure 8) is a medium-depth species, which preferred depths between 300 and 550 m (strata 3-15) (Casas, 2014). For that, this species is not likely to be much affected by the removing hauls in the closed areas. As the other shallow species, the differences until 700 m, both in mean catch and in uncertainty, are very small. They are higher in the case of the indices until 1400 m (around a 7% of difference, being higher the mean catch and smaller the SD if we removed hauls from the closed areas), but the use of this index in this species is not justified.

The **Greenland halibut** (Tables 9a and 9b, Figure 9) is widely distributed in the water column, although it prefers depths more than 550 m (strata > 16) (Nogueira *et al.*, 2016). Although the case of the Greenland halibut is not as dramatic as the roughhead grenadier, for depths less than 700 m the absolute difference is around 4.5%, being in general higher if we take all the hauls and in the last years. We have difference in the uncertainty, too, but in this case it is in general less if we take out the hauls in the closed areas. If we take the indices until 1400 m, the differences are a bit higher, around 5.5% in the case of the mean catch but much higher for the SD, being in general higher the SD if we remove the hauls in the closed areas.

The ***Sebastes juveniles*** (Tables 10a and 10b, Figure 10) prefers depths less than 350 m (Reference?). For that, the indices of the *Sebastes juveniles* until 700 m are slightly impacted by the removing of the hauls in the closed areas. They are more impacted until 1400 m (around 8% of difference being always higher if we remove the hauls in the closed areas), but the use of this index in this species is not justified.

The ***Sebastes fasciatus*** (Tables 11a and 11b, Figure 11), although can appear until a depth of 1000 m, prefers depths less than 350 m (strata 1-11) (Nogueira *et al.*, 2016), nevertheless as we can see in the indices presented in last years it has appeared most commonly at depths until 550 m (strata

1-15). The impact of removing the hauls from the closed areas for this species is very low until 700 m, being in that case the mean catch and the SD in general higher. Until 1400 the differences are higher (around 8%), but the use of this index in this species is not justified.

The *Sebastes mentella* (Tables 12a and 12b, Figure 12) is the deeper of the redfish species; it can reach depths of 1200 m, being its preferred depths between 300 and 450 m (strata 3-15) (Nogueira *et al.*, 2016). But the differences of removing the hauls in the closed areas are very similar as the rest of the genus *Sebastes*, very low until 700 m and a bit higher in the case of the indices until 1400 m.

The *Sebastes marinus* (Tables 13a and 13b, Figure 13) is the shallowest of all the species of redfish; it rarely occurs at depths of more than 600 m and its preferred depths are between 200 and 350 m (strata 3-11) (Nogueira *et al.*, 2015). So, the impact of removing the hauls in the closed areas is very low for this species, mainly at depths less than 700 m.

Discussion

As it was expected, the impact of removing hauls in the closed areas is very low in the case of almost all the species of the Division 3M that are assessed by the NAFO Scientific Council, as they are eminently shallow species. Only for the roughhead grenadier and the Greenland halibut, the first a deep species and the second a widely-distributed species, the differences are significant. In general the uncertainty is slightly higher if we remove the hauls inside the closed areas, but the loss in uncertainty is not significant except for the two species referred above.

In general, for all species, even when they are more abundant in the shallower strata, the loss in the total stratified mean catches and biomass when we remove the hauls in the closed areas is higher taking the indices until 1400 m. This is mainly due to the loss in the area when the hauls in the closed areas are taking out.

The Greenland halibut is the most sensitive case as the HCR used nowadays for the advice of this stock is based on the trend of three surveys, one of them being the EU in Division 3M. But although there are some differences in the mean catches, the trends of both are more or less the same, so it is likely that the advice given in the last years does not change.

Possibly, if we looked to the mean number and its distribution by length and/or age the results would be different, as almost all the species have its larger/older individuals at deeper depths. These analyses should be done also with others surveys in the rest of the divisions that have closed areas.

The removing of the hauls inside the closed areas from the surveys could affect negatively the sampling as in some strata most of the possible trawler zones are inside the closed areas, so find locations outside the closed areas for 2 or more hauls could be very difficult.

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Table 1. Stratification of the Division 3M

Stratum	Area			Depth (m)	
	Total	Without closed areas	% Closed Areas	Min	Max
1	342	342	0	128	146
2	838	838	0	146	183
3	628	628	0	183	256
4	348	348	0	183	256
5	703	703	0	183	256
6	496	496	0	183	256
7	822	822	0	256	366
8	646	646	0	256	366
9	314	314	0	256	366
10	951	951	0	256	366
11	806	806	0	256	366
12	670	670	0	366	549
13	249	249	0	366	549
14	602	592	2	366	549
15	666	666	0	366	549
16	634	611	4	549	732

Stratum	Area			Depth (m)	
	Total	Without closed areas	% Closed Areas	Min	Max
17	216	196	9	549	732
18	210	121	42	549	732
19	414	360	13	549	732
20	525	523	0	733	914
21	517	426	18	916	1097
22	533	344	35	1099	1280
23	284	173	39	1282	1463
24	253	175	31	733	914
25	226	118	48	916	1097
28	530	520	2	733	914
29	488	395	19	916	1097
30	1134	958	16	1099	1280
31	203	102	50	1282	1463
32	238	238	0	916	1097
33	98	94	4	733	914
34	486	451	7	916	1097

Table 2. Number of valid hauls by strata during the EU-Flemish Cap survey in years 1988-2015. n.s. means stratum not surveyed. In bold red, the cases with just 1 valid made.

Stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	Min	Max	Mean
1	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	7	10	4	4	4	4	4	4	3	4	4	4	4	122	3	10	4
2	10	10	9	10	10	10	10	10	10	10	10	13	14	14	10	19	26	10	10	10	9	10	7	7	10	10	10	10	308	7	26	11
3	7	8	7	7	7	7	7	7	7	7	7	10	7	10	7	15	14	7	7	7	7	7	5	5	7	7	7	214	5	15	8	
4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	6	8	4	4	4	3	4	4	3	4	4	4	117	3	8	4	
5	8	10	8	8	8	8	8	8	8	8	8	8	12	8	8	11	10	8	8	8	7	8	6	5	8	8	8	229	5	12	8	
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	6	6	6	6	6	6	5	6	6	6	175	5	10	6	
7	9	10	9	9	9	9	9	9	9	9	9	9	9	9	9	13	14	9	9	9	10	9	8	6	9	9	9	259	6	14	9	
8	7	7	7	7	7	6	6	7	7	7	7	10	7	10	7	10	13	7	7	7	6	7	6	5	7	7	7	205	5	13	7	
9	3	4	3	2	2	3	3	3	3	3	3	3	6	3	3	4	4	3	3	3	3	3	3	2	3	3	3	87	2	6	3	
10	9	11	11	11	11	8	11	11	11	11	11	11	17	11	11	14	14	11	11	10	9	11	7	5	10	11	11	301	5	17	11	
11	9	10	9	9	9	9	9	9	9	9	9	9	9	9	9	10	16	9	7	9	9	9	7	6	9	9	9	254	6	16	9	
12	8	8	7	8	8	7	7	9	8	7	7	10	8	11	8	9	11	8	8	8	8	8	8	5	8	8	8	226	5	11	8	
13	3	4	2	2	2	2	2	3	3	3	3	5	3	4	3	5	2	3	2	3	3	3	3	2	3	3	3	82	2	5	3	
14	6	7	6	7	8	n.s.	6	7	6	7	7	6	10	7	7	7	9	7	7	5	6	6	5	4	7	7	7	181	4	10	7	
15	6	7	8	7	6	6	8	8	7	7	8	8	8	8	8	12	9	6	7	8	6	8	6	5	8	8	8	209	5	12	7	
16	7	7	7	7	7	7	7	7	6	7	7	7	7	11	7	9	8	7	6	7	7	7	5	5	7	7	7	197	5	11	7	
17	2	2	2	2	2	1	2	2	2	2	2	3	2	2	2	3	3	2	2	2	2	2	2	1	2	2	2	57	1	3	2	
18	2	2	2	2	2	n.s.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	54	2	2	2	
19	5	5	2	5	5	4	4	5	5	4	5	5	5	5	5	7	5	5	5	5	4	5	4	3	4	5	5	131	2	7	5	
20																	5	6	6	4	6	6	5	5	6	6	6	70	3	6	5	
21																	4	4	6	4	5	6	5	6	5	6	6	66	3	6	5	
22																	6	6	6	4	3	5	4	8	3	6	6	63	3	8	5	
23																	3	2	2	3	3	2	2	3	2	3	3	31	2	3	3	
24																	3	2	3	2	3	3	3	2	3	3	3	34	1	3	3	
25																	2	2	2	2	2	3	3	2	3	3	3	31	1	3	2	
28																	6	6	6	6	6	6	5	4	6	6	6	74	4	6	6	
29																	5	6	6	6	6	6	5	4	6	6	6	72	4	6	6	
30																	10	11	11	11	11	11	12	14	11	11	11	135	10	14	11	
31																	2	2	2	2	2	2	2	4	2	2	2	26	2	4	2	
32																	2	2	2	2	3	2	3	2	2	2	2	28	2	3	2	
33																	2	2	2	2	2	2	2	2	2	2	2	26	2	2	2	
34																	3	3	5	5	4	5	4	3	5	5	5	55	3	5	4	
Total	115	126	113	117	117	101	115	121	117	117	119	134	140	140	121	197	242	176	179	174	167	178	153	138	174	181	181	4134				

Table 3. Number (top) and percentage (bottom) of valid hauls by strata in the closed areas during the EU-Flemish Cap survey in years 1988-2015.

Stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
14																				1					1				2
15																													
16								1							1		1	1	1		1	1	1	1		1		1	11
17			1	1							1		1	1	1								1		1	1		1	10
18	2	1			2		1				1	1		1				1		1	1	1	1	1	1	1	1	1	19
19		2		1	1	1			2	1	2	2	2	2	1	5		2		1		2		1	1	1	1	1	31
20																													
21																	1	1	3	2		2	1	1			2		14
22																	3	3	3	1	2		1			2	2	2	19
23																	1			1					1		1		4
24																	1	1	1		1	1	2		1	1	2	1	12
25																			1	2	2	1	2	2	2	2		1	16
28																													
29																	1	3	3	4	4	4		1	2	3	3	1	30
30																			2	1			1			1	1	2	8
31																		1	1	1			1						4
Total	2	3	1	2	3	1	1	1	2	3	3	2	3	4	3	8	9	16	18	17	11	12	11	7	10	13	13	10	189

Stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
14																				20.0					14.3				1.1
15																													
16								14.3							14.3	12.5	14.3	16.7		14.3	14.3	20.0	20.0		14.3		14.3		5.58
17			50.0	50.0						50.0			50.0	50.0	50.0								50.0	50.0	50.0	50.0	50.0	50.0	17.5
18	100.0	50.0			100.0		50.0			50.0	50.0		50.0				50.0		50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	35.2
19		40.0		20.0	20.0	25.0			40.0	25.0	40.0	40.0	40.0	40.0	20.0	71.4		40.0		20.0		40.0		33.3	25.0	20.0	20.0		23.7
20																													
21																	25.0	25.0	50.0	50.0		33.3	20.0	16.7			33.3		21.2
22																	50.0	50.0	50.0	25.0	66.7		25.0			33.3	33.3	33.3	30.2
23																	33.3			33.3					50.0		33.3		12.9
24																	33.3	50.0	33.3		33.3	33.3	66.7		33.3	33.3	66.7	33.3	35.3
25																		50.0	100.0	100.0	33.3	66.7	100.0	66.7	66.7		33.3		51.6
28																													
29																	20.0	50.0	50.0	66.7	66.7	66.7		25.0	33.3	50.0	50.0	16.7	41.7
30																			18.2	9.1			8.3		9.1	9.1	18.2		5.93
31																		50.0	50.0	50.0			50.0						15.4
Total	1.7	2.4	0.9	1.7	2.6	1.0	0.9	0.8	1.7	2.6	2.5	1.5	2.1	2.9	2.5	4.1	3.7	9.1	10.1	9.8	6.6	6.7	7.2	5.1	5.7	7.2	7.2	5.5	4.57

Table 4. Number of valid hauls by strata remaining after removing the hauls in the closed areas during the EU-Flemish Cap survey in years 1988-2015. n.s. means stratum not surveyed. In green, the cases with 0 valid hauls. In yellow, the cases with 1 haul left.

Stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	Min	Max	Mean	Nº 0	Nº 1
1	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	7	10	4	4	4	4	4	4	3	4	4	4	4	122	3	10	4		
2	10	10	9	10	10	10	10	10	10	10	10	10	13	14	14	10	19	26	10	10	10	9	10	7	7	10	10	10	308	7	26	11		
3	7	8	7	7	7	7	7	7	7	7	7	7	10	7	10	7	15	14	7	7	7	7	7	5	5	7	7	7	214	5	15	8		
4	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	6	8	4	4	4	3	4	4	3	4	4	4	117	3	8	4		
5	8	10	8	8	8	8	8	8	8	8	8	8	8	12	8	8	11	10	8	8	8	7	8	6	5	8	8	8	229	5	12	8		
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	10	10	6	6	6	6	6	6	5	6	6	6	175	5	10	6		
7	9	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	13	14	9	9	9	10	9	8	6	9	9	9	259	6	14	9		
8	7	7	7	7	7	6	6	7	7	7	7	7	10	7	10	7	10	13	7	7	7	6	7	6	5	7	7	7	205	5	13	7		
9	3	4	3	2	2	3	3	3	3	3	3	3	3	6	3	3	4	4	3	3	3	3	3	2	3	3	3	87	2	6	3			
10	9	11	11	11	11	8	11	11	11	11	11	11	11	17	11	11	14	14	11	11	10	9	11	7	5	10	11	11	301	5	17	11		
11	9	10	9	9	9	9	9	9	9	9	9	9	9	9	9	10	16	9	7	9	9	9	9	7	6	9	9	9	254	6	16	9		
12	8	8	7	8	8	7	7	9	8	7	7	10	8	11	8	9	11	8	8	8	8	8	8	8	5	8	8	8	226	5	11	8		
13	3	4	2	2	2	2	2	3	3	3	3	3	5	3	4	3	5	2	3	2	3	3	3	2	3	3	3	82	2	5	3			
14	6	7	6	7	8	n.s.	6	7	6	7	7	6	10	7	7	7	9	7	7	4	6	6	5	4	6	7	7	7	179	4	10	6		
15	6	7	8	7	6	6	8	8	7	7	8	8	8	8	8	12	9	6	7	8	6	8	6	5	8	8	8	8	209	5	12	7		
16	7	7	7	7	7	7	7	6	6	6	7	7	7	11	6	9	7	6	5	7	6	6	4	4	7	6	7	6	186	4	11	7		
17	2	2	1	1	2	1	2	2	2	1	2	3	1	1	1	3	2	2	2	2	2	2	1	1	1	1	1	2	47	1	3	2		12
18	0	1	2	2	0	n.s.	1	2	2	1	1	2	2	1	1	2	2	1	2	1	1	1	1	1	1	1	1	1	35	0	2	1	2	15
19	5	3	2	4	4	3	4	5	3	3	3	3	3	3	3	4	2	5	3	5	4	4	3	4	2	3	4	4	100	2	5	4		
20																	5	6	6	4	6	6	5	5	6	6	6	6	70	3	6	5		
21																	3	3	3	2	5	4	4	5	5	6	4	6	52	2	6	4		
22																	3	3	3	3	1	5	3	8	3	4	4	4	44	0	8	3		1
23																	2	2	2	2	3	2	2	3	1	3	2	3	27	0	3	2		1
24																	2	1	2	2	2	2	1	2	2	2	1	2	22	1	2	2		3
25																	2	2	1	0	0	2	1	0	1	1	3	2	15	0	3	1	3	4
28																	6	6	6	6	6	6	5	4	6	6	6	6	74	4	6	6		
29																	4	3	3	2	2	2	5	3	4	3	3	5	42	2	5	3		
30																	10	11	9	10	11	11	11	14	11	10	10	9	127	0	14	10		
31																	2	1	1	1	2	2	1	4	2	2	2	2	22	0	4	2		4
32																	2	2	2	2	3	2	3	2	2	2	2	2	28	2	3	2		
33																	2	2	2	2	2	2	2	2	2	2	2	2	26	2	2	2		
34																	3	3	5	5	4	5	4	3	5	5	5	5	55	3	5	4		
Total	113	123	112	115	114	100	114	120	115	114	116	132	137	136	118	189	233	160	161	157	156	166	142	131	164	168	168	171	3945				5	40

Table 5a. Atlantic cod mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, with all the hauls in the EU 3M survey during years 1988-2015.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
1	29.50	14.23	16.80	122.47	1.66	11.31	47.49	34.27	22.07	5.32	2.75	2.18	5.47	2.35	10.47	4.18	43.76	23.93	53.35	96.94	92.62	49.41	259.10	102.93	34.37	42.34	102.81	381.79	
2	90.84	92.38	18.49	49.10	46.10	80.93	73.27	29.93	35.71	18.33	17.00	13.14	7.18	4.53	6.59	1.00	15.92	16.90	37.10	15.88	47.84	59.31	209.14	205.75	124.05	91.55	244.51	56.62	
3	53.38	122.73	28.55	29.36	101.18	100.74	72.75	13.69	12.58	13.52	8.39	3.42	4.29	2.99	5.38	1.19	0.11	21.39	23.27	136.93	49.31	91.12	53.88	202.09	211.90	146.79	269.72	105.82	
4	67.45	104.38	52.72	62.49	74.21	305.41	40.64	15.63	23.01	18.47	3.00	1.40	9.55	10.54	1.43	3.23	3.62	3.27	10.04	24.39	16.62	111.85	36.99	217.98	62.56	153.15	66.40	109.62	
5	22.73	99.00	90.12	113.63	48.75	72.81	9.85	13.58	9.99	12.26	10.40	2.73	4.44	2.77	1.56	3.55	0.20	0.32	6.87	5.85	12.05	74.11	38.41	116.79	124.17	58.98	54.30	61.64	
6	48.85	102.67	49.69	23.14	14.41	63.81	21.35	19.80	9.38	16.26	9.27	5.67	7.73	11.33	7.93	0.41	2.35	3.11	18.51	48.59	188.81	162.31	34.82	143.80	151.07	58.21	173.79	184.70	
7	20.28	132.71	40.00	23.16	8.62	56.14	7.81	1.11	0.49	9.73	0.71	0.47	0.04	0.11	0.22	1.07	0.16	0.00	4.32	1.28	42.81	115.50	42.58	23.60	62.26	53.57	343.13	99.99	
8	103.69	190.80	185.45	59.29	27.26	92.46	41.98	4.05	1.09	18.69	0.89	0.47	0.85	1.14	0.43	1.42	0.06	0.00	4.03	5.52	40.29	32.68	48.80	126.80	89.85	53.88	108.38	150.19	
9	4.39	94.36	151.44	4.50	3.42	23.82	5.71	0.22	2.45	4.17	0.00	0.46	0.67	0.00	0.33	9.89	0.00	0.00	1.53	3.61	1.93	12.01	48.91	47.70	142.42	23.17	215.93	21.19	
10	10.55	36.59	33.07	12.30	2.57	7.38	3.99	0.46	0.36	2.38	1.57	0.80	0.77	0.64	0.01	0.21	0.00	0.22	2.40	1.94	20.70	39.99	33.71	41.38	133.98	40.64	52.48	168.80	
11	23.32	103.67	35.91	16.63	2.09	15.62	5.41	0.74	0.38	2.89	1.64	2.38	0.98	1.63	0.16	0.58	0.31	0.52	3.54	2.53	34.42	40.35	41.48	42.40	53.05	39.13	89.19	24.53	
12	3.75	27.64	17.76	1.42	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.47	3.79	6.58	12.70	28.41	14.81	10.38	27.56	
13	0.25	57.26	22.08	2.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	4.06	3.73	12.63	26.35	28.31	15.95	22.87	
14	1.33	11.97	6.80	1.63	0.84	n.s.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.00	2.00	122.03	13.15	39.70	45.64	75.93	103.79	46.38	
15	8.42	95.01	26.40	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.53	9.07	2.20	5.35	10.42	57.81	22.08	39.77	30.89	
16	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	1.67	1.55
17	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.08	0.00	0.00	0.00	0.00	n.s.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.58	0.00	0.00	0.00
19	0.00	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	2.04	0.00	0.31	
20																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
21																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
22																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
25																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
28																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
29																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
33																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC <700m	29.02	75.90	42.18	28.60	18.99	43.32	18.80	7.09	6.40	7.08	3.54	2.15	2.20	1.94	1.77	1.24	2.97	3.72	8.89	16.97	31.03	53.45	49.22	75.43	80.46	51.37	113.65	81.24	
SD <700m	4.11	8.16	5.75	4.76	4.15	12.36	5.23	1.53	1.04	1.23	0.46	0.27	0.42	0.26	0.28	0.21	0.54	1.16	1.39	6.43	7.83	11.52	11.56	8.39	8.73	6.33	18.07	14.19	
MC <1400m																		1.95	2.45	5.84	11.15	20.38	35.11	32.33	49.54	52.84	33.74	74.64	53.36
SD <1400m																		0.35	0.76	0.91	4.22	5.14	7.57	7.59	5.51	5.74	4.16	11.87	9.32
Bio <700m	40838	106810	59362	40250	26720	60963	26463	9978	9012	9967	4986	3019	3090	2728	2495	1752	4182	5242	12506	23886	43675	75227	69272	106150	113228	72289	159939	114333	
SD <700m	5780	11488	8099	6703	5840	17395	7366	2159	1460	1726	644	375	585	364	397	301	757	1626	1959	9051	11014	16217	16269	11806	12293	8905	25425	19970	
Bio <1400m																		4182	5242	12506	23886	43675	75227	69272	106150	113228	72289	159939	114333
SD <1400m																		757	1626	1959	9051	11014	16217	16269	11806	12293	8905	25425	19970

Table 5b. Atlantic cod mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, without the hauls inside the closed areas in the EU 3M survey during years 1988-2015. In green, the cases with 0 valid hauls. In yellow, the cases with 1 haul left.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
1	29.50	14.23	16.80	122.47	1.66	11.31	47.49	34.27	22.07	5.32	2.75	2.18	5.47	2.35	10.47	4.18	43.76	23.93	53.35	96.94	92.62	49.41	259.10	102.93	34.37	42.34	102.81	381.79	
2	90.84	92.38	18.49	49.10	46.10	80.93	73.27	29.93	35.71	18.33	17.00	13.14	7.18	4.53	6.59	1.00	15.92	16.90	37.10	15.88	47.84	59.31	209.14	205.75	124.05	91.55	244.51	56.62	
3	53.38	122.73	28.55	29.36	101.18	100.74	72.75	13.69	12.58	13.52	8.39	3.42	4.29	2.99	5.38	1.19	0.11	21.39	23.27	136.93	49.31	91.12	53.88	202.09	211.90	146.79	269.72	105.82	
4	67.45	104.38	52.72	62.49	74.21	305.41	40.64	15.63	23.01	18.47	3.00	1.40	9.55	10.54	1.43	3.23	3.62	3.27	10.04	24.39	16.62	111.85	36.99	217.98	62.56	153.15	66.40	109.62	
5	22.73	99.00	90.12	113.63	48.75	72.81	9.85	13.58	9.99	12.26	10.40	2.73	4.44	2.77	1.56	3.55	0.20	0.32	6.87	5.85	12.05	74.11	38.41	116.79	124.17	58.98	54.30	61.64	
6	48.85	102.67	49.69	23.14	14.41	63.81	21.35	19.80	9.38	16.26	9.27	5.67	7.73	11.33	7.93	0.41	2.35	3.11	18.51	48.59	188.81	162.31	34.82	143.80	151.07	58.21	173.79	184.70	
7	20.28	132.71	40.00	23.16	8.62	56.14	7.81	1.11	0.49	9.73	0.71	0.47	0.04	0.11	0.22	1.07	0.16	0.00	4.32	1.28	42.81	115.50	42.58	23.60	62.26	53.57	343.13	99.99	
8	103.69	190.80	185.45	59.29	27.26	92.46	41.98	4.05	1.09	18.69	0.89	0.47	0.85	1.14	0.43	1.42	0.06	0.00	4.03	5.52	40.29	32.68	48.80	126.80	89.85	53.88	108.38	150.19	
9	4.39	94.36	151.44	4.50	3.42	23.82	5.71	0.22	2.45	4.17	0.00	0.46	0.67	0.00	0.33	9.89	0.00	0.00	1.53	3.61	1.93	12.01	48.91	47.70	142.42	23.17	215.93	21.19	
10	10.55	36.59	33.07	12.30	2.57	7.38	3.99	0.46	0.36	2.38	1.57	0.80	0.77	0.64	0.01	0.21	0.00	0.22	2.40	1.94	20.70	39.99	33.71	41.38	133.98	40.64	52.48	168.80	
11	23.32	103.67	35.91	16.63	2.09	15.62	5.41	0.74	0.38	2.89	1.64	2.38	0.98	1.63	0.16	0.58	0.31	0.52	3.54	2.53	34.42	40.35	41.48	42.40	53.05	39.13	89.19	24.53	
12	3.75	27.64	17.76	1.42	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.47	3.79	6.58	12.70	28.41	14.81	10.38	27.56	
13	0.25	57.26	22.08	2.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	4.06	3.73	12.63	26.35	28.31	15.95	22.87	
14	1.33	11.97	6.80	1.63	0.84	n.s.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.00	2.00	122.03	13.15	39.70	53.24	75.93	103.79	46.38	
15	8.42	95.01	26.40	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	9.07	2.20	5.35	10.42	57.81	22.08	39.77	30.89	
16	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	1.67	1.81	
17	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	NA	0.00	0.00	0.00	NA	n.s.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.15	0.00	0.00	0.00
19	0.00	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	2.56	0.00	0.31	
20																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
21																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
22																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
25																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
28																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
29																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
33																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																							0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC <700m	29.56	77.35	42.97	29.14	19.34	44.14	19.16	7.22	6.52	7.22	3.61	2.19	2.24	1.98	1.81	1.27	3.03	3.80	9.05	17.29	31.62	54.35	50.13	76.82	82.38	52.27	115.69	82.74	
SD <700m	4.18	7.91	5.66	4.85	4.22	12.59	5.25	1.49	1.04	1.25	0.46	0.27	0.42	0.26	0.29	0.22	0.53	1.18	1.42	6.55	7.97	11.33	11.77	8.55	8.77	6.42	18.37	14.30	
MC <1400m																		2.11	2.64	6.30	12.04	22.02	37.85	34.91	53.49	57.37	36.40	80.56	57.62
SD <1400m																		0.37	0.82	0.99	4.56	5.55	7.89	8.19	5.95	6.11	4.47	12.79	9.96
Bio <700m	40832	106824	59349	40245	26718	60960	26462	9977	9012	9966	4986	3019	3090	2728	2495	1752	4181	5241	12504	23884	43670	75061	69242	106092	113776	72192	159787	114279	
SD <700m	5772	10922	7814	6703	5825	17391	7254	2064	1433	1725	631	374	583	364	397	299	730	1625	1959	9050	11007	15644	16250	11803	12119	8868	25372	19757	
Bio <1400m																		4181	5241	12504	23884	43670	75061	69242	106092	113776	72192	159787	114279
SD <1400m																		730	1625	1959	9050	11007	15644	16250	11803	12119	8868	25372	19757

Table 6a. American plaice mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, with all the hauls in the EU 3M survey during years 1988-2015.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	28.62	21.94	11.10	23.63	15.58	23.67	14.52	48.90	32.06	8.38	3.41	8.17	7.57	32.93	3.09	37.77	33.04	22.76	15.65	6.22	3.16	12.02	15.69	15.20	10.14	7.23	3.98	8.98
2	25.46	32.25	12.30	23.84	15.34	11.34	10.72	13.11	8.44	6.63	14.20	21.58	13.91	11.28	11.30	8.52	6.41	7.12	3.17	1.87	4.59	3.31	9.70	10.21	11.39	10.76	16.75	11.17
3	16.32	13.35	19.92	14.88	7.53	5.29	3.88	3.01	2.01	5.91	3.40	1.85	0.25	1.27	0.88	0.27	5.11	1.20	0.88	1.21	1.76	0.89	1.23	4.34	5.59	3.17	2.66	5.52
4	47.38	9.96	17.60	6.89	12.00	12.32	18.40	10.55	5.79	4.37	7.39	1.13	2.16	1.85	2.77	0.00	8.51	7.74	2.36	3.30	9.49	0.78	1.97	25.87	16.13	14.46	5.57	8.11
5	27.73	26.66	19.51	15.00	8.94	13.78	13.11	5.87	5.33	6.60	7.93	0.79	0.77	1.19	2.03	1.16	0.77	0.48	0.67	0.86	0.94	0.76	2.14	2.03	7.64	2.85	3.49	4.73
6	7.25	17.08	14.42	7.59	9.10	4.61	12.23	1.85	0.48	0.20	0.53	0.60	0.37	0.56	0.95	0.59	0.39	1.07	0.92	1.50	0.57	0.86	0.51	2.41	2.80	5.16	2.83	4.67
7	10.71	4.36	7.64	3.56	5.83	2.91	2.88	2.27	0.65	0.76	0.43	0.17	0.13	0.27	0.48	0.36	0.76	0.28	0.34	0.18	0.43	0.29	0.25	1.46	1.42	1.52	1.90	1.07
8	4.85	1.91	3.05	2.91	8.44	5.65	1.99	1.53	0.65	1.43	1.92	0.37	0.00	0.61	0.49	0.23	0.63	2.04	1.89	0.67	1.48	0.54	0.57	0.76	2.17	1.81	2.90	2.55
9	2.45	2.92	8.19	0.00	8.91	4.91	0.47	11.95	1.32	0.85	0.00	0.00	0.00	0.00	0.03	0.31	1.84	0.43	0.00	0.00	0.00	1.84	0.00	0.00	0.71	0.60	0.00	0.04
10	18.32	12.00	15.78	10.32	11.08	11.51	17.63	5.59	3.27	2.25	0.28	0.57	0.35	0.75	0.28	0.57	0.36	0.69	0.76	0.19	1.28	0.42	0.91	0.28	0.97	1.21	0.83	0.68
11	11.03	8.70	12.26	3.73	3.47	2.72	2.81	1.01	0.63	0.29	0.28	0.35	0.20	0.25	0.55	0.36	0.64	0.32	0.18	0.20	0.47	0.59	0.24	0.31	1.13	1.12	1.72	1.15
12	0.11	0.21	0.51	0.19	0.12	0.17	0.37	0.16	0.36	0.08	0.00	0.00	0.00	0.04	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.12	0.00	0.00	0.00
13	0.07	0.00	0.61	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.09	0.09	0.08	4.85	0.36	n.s.	0.29	0.17	0.05	0.00	0.05	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.04
15	0.25	1.12	0.03	1.09	0.43	1.24	0.45	0.77	0.25	0.07	0.08	0.00	0.00	0.00	0.00	0.09	0.00	0.04	0.00	0.03	0.08	0.01	0.00	0.11	0.15	0.00	0.05	0.25
16	0.07	0.00	0.00	0.04	0.11	0.15	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	n.s.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.27	0.07	0.09	0.05	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC <700m	11.40	9.35	8.51	7.17	6.15	5.59	5.85	4.92	2.91	2.15	2.44	2.33	1.56	2.35	1.46	2.17	2.47	1.96	1.20	0.75	1.25	1.02	1.74	2.90	3.19	2.63	2.70	2.72
SD<700m	1.31	1.31	0.91	0.84	0.68	0.74	0.97	0.80	0.64	0.50	0.53	0.62	0.30	0.38	0.52	0.71	0.52	0.49	0.24	0.11	0.21	0.23	0.37	0.55	0.38	0.31	0.48	0.40
MC<1400m																	1.62	1.29	0.79	0.49	0.82	0.67	1.14	1.91	2.10	1.73	1.77	1.78
SD<1400m																	0.34	0.32	0.16	0.07	0.14	0.15	0.25	0.36	0.25	0.20	0.31	0.26
Bio <700m	16044	13159	11982	10088	8658	7864	8227	6917	4098	3024	3438	3276	2198	3310	2049	3050	3473	2759	1690	1053	1765	1440	2446	4084	4494	3698	3801	3822
SD <700m	1849	1839	1277	1183	960	1038	1371	1128	908	705	747	877	421	533	729	1001	738	684	342	159	299	327	526	780	533	439	672	556
Bio <1400m																	3473	2759	1690	1053	1765	1440	2446	4084	4494	3698	3801	3822
SD <1400m																	738	684	342	159	299	327	526	780	533	439	672	556

Table 7a. Roughhead grenadier mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, with all the hauls in the EU 3M survey during years 1988-2015.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.13	0.03	0.00	0.05	0.00	0.16	0.02	0.13	0.32	0.75	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	1.13	0.08	0.00	0.12	0.67	0.51	0.09	0.50	3.66	0.44	0.97	1.09	2.66	0.71	0.00	0.61	6.74	1.97	4.32	0.40	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.14	1.11	0.13	0.00	0.00	0.38	0.30	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.08	0.05	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	1.25	1.15	0.44	1.21	1.13	4.62	0.61	1.35	0.51	1.54	0.62	2.33	0.90	3.32	1.71	1.55	3.27	2.32	1.08	0.24	1.03	0.82	0.67	0.00	0.30	0.43	0.19	0.16
13	0.64	1.45	0.55	0.53	1.81	0.55	0.96	2.26	0.15	0.57	2.36	4.30	1.53	4.63	3.65	3.10	8.99	2.82	4.65	2.42	3.27	0.76	2.91	1.30	0.18	0.00	0.00	0.00
14	2.49	1.55	1.33	1.06	1.73	n.s.	0.91	0.84	3.35	0.96	2.42	1.69	1.78	3.63	1.54	3.62	10.92	4.72	4.51	2.78	6.72	0.01	0.04	0.12	0.83	0.35	0.18	0.34
15	1.03	0.06	0.33	0.72	0.59	3.61	0.93	2.03	0.95	0.77	1.13	0.82	1.16	0.67	0.18	0.82	2.91	1.36	0.95	0.62	0.13	0.00	1.48	0.09	0.00	0.38	0.04	0.16
16	4.13	1.66	2.50	2.71	5.11	15.77	6.18	3.03	4.69	2.49	4.79	1.76	2.66	3.78	3.23	3.50	7.03	5.03	16.45	2.86	5.46	2.52	0.93	1.33	1.58	1.44	1.21	0.31
17	4.63	1.55	1.09	6.24	4.26	4.56	3.41	4.47	0.94	4.03	7.10	2.61	2.34	12.85	13.19	2.95	8.49	4.30	20.94	2.45	13.37	1.39	9.64	0.12	3.86	4.66	1.79	4.94
18	11.10	4.56	5.10	12.68	7.68	n.s.	27.02	14.78	5.49	8.02	6.76	11.16	7.82	13.70	0.96	26.34	15.11	21.01	15.52	17.54	31.09	6.93	24.47	15.90	8.41	15.06	6.19	7.22
19	13.46	4.12	4.94	5.24	7.76	16.58	6.38	5.13	3.40	5.84	7.68	2.33	1.66	3.91	2.11	3.73	4.12	6.63	10.72	3.03	12.37	4.26	1.60	1.31	0.57	0.52	0.66	0.93
20																	5.98	2.60	5.05	2.05	3.84	1.85	5.08	1.11	1.26	0.67	1.44	0.35
21																	24.65	14.44	11.07	10.95	16.15	7.66	16.47	23.30	11.14	4.34	5.44	2.88
22																	19.47	15.69	21.77	8.56	24.42	19.79	13.61	16.18	13.30	7.56	10.51	9.25
23																	23.68	12.23	9.04	8.76	10.27	8.07	10.25	9.61	8.59	10.09	4.44	6.62
24																	4.05	30.53	12.43	4.88	4.52	4.32	6.15	6.58	6.45	2.89	4.75	2.59
25																	11.40	28.87	27.11	6.53	14.62	12.02	4.93	3.26	4.83	8.62	10.82	7.48
28																	6.01	9.83	8.63	4.23	5.10	3.86	4.79	1.95	0.96	0.99	0.41	0.81
29																	47.85	15.56	6.84	8.10	8.53	6.51	8.85	2.50	4.75	3.07	6.72	4.07
30																	23.50	18.97	7.32	14.15	22.19	16.93	18.62	16.67	10.47	8.10	5.53	5.86
31																	24.03	12.07	8.70	8.95	6.52	8.33	3.94	8.34	5.06	2.21	7.36	9.97
32																	8.63	8.42	4.16	2.71	6.99	6.22	7.62	5.42	1.97	3.16	2.53	3.68
33																	9.06	1.33	9.35	8.06	2.92	0.88	4.38	8.59	4.12	1.71	3.21	2.98
34																	17.46	5.09	7.89	4.70	6.33	2.22	6.46	2.24	2.49	2.95	3.27	2.25
MC <700m	1.43	0.59	0.61	0.95	1.12	2.24	1.40	1.10	0.97	0.85	1.20	0.92	0.88	1.53	0.86	1.40	2.56	1.77	2.79	0.97	2.27	0.56	1.01	0.49	0.43	0.57	0.28	0.34
SD <700m	0.19	0.10	0.11	0.18	0.19	0.33	0.12	0.16	0.20	0.12	0.17	0.24	0.15	0.19	0.13	0.37	0.26	0.21	0.50	0.22	0.44	0.15	0.14	0.29	0.18	0.10	0.08	0.10
MC <1400m																	8.28	5.91	5.29	3.39	5.79	3.50	4.28	3.59	2.56	2.01	1.92	1.73
SD <1400m																	0.73	0.67	0.55	0.38	0.62	0.44	0.43	0.49	0.32	0.22	0.19	0.14
Bio <700m	2009	834	852	1334	1578	3153	1975	1545	1360	1198	1692	1294	1243	2156	1211	1973	3596	2491	3933	1367	3190	782	1421	694	611	807	399	478
SD <700m	263	142	149	251	268	465	171	224	275	169	244	335	212	268	178	517	363	300	697	309	617	205	197	409	258	141	110	147
Bio <1400m																	17740	12663	11338	7271	12407	7493	9177	7688	5475	4297	4111	3701
SD <1400m																	1562	1429	1168	812	1322	942	932	1048	678	476	413	300

Table 7b. Roughhead grenadier mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, without the hauls inside the closed areas in the EU 3M survey during years 1988-2015. In green, the cases with 0 valid hauls. In yellow, the cases with 1 haul left.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.13	0.03	0.00	0.05	0.00	0.16	0.02	0.13	0.32	0.75	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	1.13	0.08	0.00	0.12	0.67	0.51	0.09	0.50	3.66	0.44	0.97	1.09	2.66	0.71	0.00	0.61	6.74	1.97	4.32	0.40	0.93	0.00	0.00	0.00	0.00	0.00
10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.14	1.11	0.13	0.00	0.00	0.38	0.30	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.08	0.05	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	1.25	1.15	0.44	1.21	1.13	4.62	0.61	1.35	0.51	1.54	0.62	2.33	0.90	3.32	1.71	1.55	3.27	2.32	1.08	0.24	1.03	0.82	0.67	0.00	0.30	0.43
13	0.64	1.45	0.55	0.53	1.81	0.55	0.96	2.26	0.15	0.57	2.36	4.30	1.53	4.63	3.65	3.10	8.99	2.82	4.65	2.42	3.27	0.76	2.91	1.30	0.18	0.00
14	2.49	1.55	1.33	1.06	1.73	n.s.	0.91	0.84	3.35	0.96	2.42	1.69	1.78	3.63	1.54	3.62	10.92	4.72	4.51	2.27	6.72	0.01	0.04	0.12	0.68	0.35
15	1.03	0.06	0.33	0.72	0.59	3.61	0.93	2.03	0.95	0.77	1.13	0.82	1.16	0.67	0.18	0.82	2.91	1.36	0.95	0.62	0.13	0.00	1.48	0.09	0.00	0.38
16	4.13	1.66	2.50	2.71	5.11	15.77	6.18	3.21	4.69	2.49	4.79	1.76	2.66	3.78	3.48	3.50	6.94	5.15	12.14	2.86	4.56	2.06	0.64	1.66	1.58	1.59
17	4.63	1.55	1.66	4.58	4.26	4.56	3.41	4.47	0.94	4.71	7.10	2.61	2.76	5.73	8.66	2.95	8.49	4.30	20.94	2.45	13.37	1.39	13.99	0.12	0.56	0.38
18	NA	1.56	5.10	12.68	NA	n.s.	26.69	14.78	5.49	6.92	1.01	11.16	7.82	10.49	0.96	26.34	15.11	26.87	15.52	8.33	18.51	12.85	20.71	1.64	0.02	14.78
19	13.46	4.78	4.94	4.88	6.57	12.02	6.38	5.13	4.03	5.62	5.35	2.93	1.70	3.40	1.85	3.77	4.12	4.86	10.72	3.06	12.37	4.74	1.60	1.53	0.56	0.51
20																	5.98	2.60	5.05	2.05	3.84	1.85	5.08	1.11	1.26	0.67
21																	22.22	15.02	10.01	17.76	16.15	9.09	18.85	25.69	11.14	4.34
22																	15.12	8.93	18.95	7.44	3.92	19.79	14.96	16.18	13.30	7.17
23																	23.11	12.23	9.04	10.84	10.27	8.07	10.25	9.61	12.41	10.09
24																	4.19	2.28	12.23	4.88	1.50	3.35	0.36	6.58	1.35	3.94
25																	11.40	28.87	51.49	NA	NA	16.28	9.68	NA	12.15	17.38
28																	6.01	9.83	8.63	4.23	5.10	3.86	4.79	1.95	0.96	0.99
29																	40.68	19.63	7.83	13.35	8.71	9.29	8.85	1.79	5.73	3.24
30																	23.50	18.97	7.83	14.45	22.19	16.93	19.29	16.67	10.47	8.67
31																	24.03	5.42	16.02	4.56	6.52	8.33	5.92	8.34	5.06	2.21
32																	8.63	8.42	4.16	2.71	6.99	6.22	7.62	5.42	1.97	3.16
33																	9.06	1.33	9.35	8.06	2.92	0.88	4.38	8.59	4.12	1.71
34																	17.46	5.09	7.89	4.70	6.33	2.22	6.46	2.24	2.49	2.95
MC <700m	1.14	0.52	0.55	0.77	0.88	1.99	1.14	0.96	0.93	0.75	0.95	0.84	0.82	1.20	0.74	1.17	2.40	1.58	2.32	0.67	1.73	0.53	0.81	0.22	0.19	0.36
SD <700m	0.13	0.10	0.07	0.12	0.17	0.28	0.11	0.12	0.18	0.11	0.12	0.13	0.12	0.10	0.09	0.23	0.25	0.17	0.40	0.12	0.33	0.11	0.07	0.07	0.03	0.05
MC <1400m																	6.97	4.65	4.67	3.11	4.24	3.12	3.86	2.94	2.08	1.71
SD <1400m																	0.69	0.37	0.37	0.48	0.48	0.39	0.43	0.42	0.22	0.18
Bio <700m	1573	723	758	1059	1221	2754	1574	1326	1280	1030	1315	1160	1134	1652	1027	1612	3321	2180	3208	931	2395	738	1120	299	257	502
SD <700m	185	136	102	164	232	385	156	171	249	156	159	186	169	142	119	314	342	238	556	171	457	153	101	103	45	73
Bio <1400m																	13829	9216	9255	6162	8406	6186	7656	5839	4135	3398
SD <1400m																	1363	736	731	953	961	783	844	840	428	353

Table 8a. Shrimp mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, with all the hauls in the EU 3M survey during years 1988-2015.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.13	0.03	0.00	0.05	0.00	0.16	0.02	0.13	0.32	0.75	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	1.13	0.08	0.00	0.12	0.67	0.51	0.09	0.50	3.66	0.44	0.97	1.09	2.66	0.71	0.00	0.61	6.74	1.97	4.32	0.40	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.14	1.11	0.13	0.00	0.00	0.38	0.30	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.08	0.05	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	1.25	1.15	0.44	1.21	1.13	4.62	0.61	1.35	0.51	1.54	0.62	2.33	0.90	3.32	1.71	1.55	3.27	2.32	1.08	0.24	1.03	0.82	0.67	0.00	0.30	0.43	0.19	0.16
13	0.64	1.45	0.55	0.53	1.81	0.55	0.96	2.26	0.15	0.57	2.36	4.30	1.53	4.63	3.65	3.10	8.99	2.82	4.65	2.42	3.27	0.76	2.91	1.30	0.18	0.00	0.00	0.00
14	2.49	1.55	1.33	1.06	1.73	n.s.	0.91	0.84	3.35	0.96	2.42	1.69	1.78	3.63	1.54	3.62	10.92	4.72	4.51	2.78	6.72	0.01	0.04	0.12	0.83	0.35	0.18	0.34
15	1.03	0.06	0.33	0.72	0.59	3.61	0.93	2.03	0.95	0.77	1.13	0.82	1.16	0.67	0.18	0.82	2.91	1.36	0.95	0.62	0.13	0.00	1.48	0.09	0.00	0.38	0.04	0.16
16	4.13	1.66	2.50	2.71	5.11	15.77	6.18	3.03	4.69	2.49	4.79	1.76	2.66	3.78	3.23	3.50	7.03	5.03	16.45	2.86	5.46	2.52	0.93	1.33	1.58	1.44	1.21	0.31
17	4.63	1.55	1.09	6.24	4.26	4.56	3.41	4.47	0.94	4.03	7.10	2.61	2.34	12.85	13.19	2.95	8.49	4.30	20.94	2.45	13.37	1.39	9.64	0.12	3.86	4.66	1.79	4.94
18	11.10	4.56	5.10	12.68	7.68	n.s.	27.02	14.78	5.49	8.02	6.76	11.16	7.82	13.70	0.96	26.34	15.11	21.01	15.52	17.54	31.09	6.93	24.47	15.90	8.41	15.06	6.19	7.22
19	13.46	4.12	4.94	5.24	7.76	16.58	6.38	5.13	3.40	5.84	7.68	2.33	1.66	3.91	2.11	3.73	4.12	6.63	10.72	3.03	12.37	4.26	1.60	1.31	0.57	0.52	0.66	0.93
20																	5.98	2.60	5.05	2.05	3.84	1.85	5.08	1.11	1.26	0.67	1.44	0.35
21																	24.65	14.44	11.07	10.95	16.15	7.66	16.47	23.30	11.14	4.34	5.44	2.88
22																	19.47	15.69	21.77	8.56	24.42	19.79	13.61	16.18	13.30	7.56	10.51	9.25
23																	23.68	12.23	9.04	8.76	10.27	8.07	10.25	9.61	8.59	10.09	4.44	6.62
24																	4.05	30.53	12.43	4.88	4.52	4.32	6.15	6.58	6.45	2.89	4.75	2.59
25																	11.40	28.87	27.11	6.53	14.62	12.02	4.93	3.26	4.83	8.62	10.82	7.48
28																	6.01	9.83	8.63	4.23	5.10	3.86	4.79	1.95	0.96	0.99	0.41	0.81
29																	47.85	15.56	6.84	8.10	8.53	6.51	8.85	2.50	4.75	3.07	6.72	4.07
30																	23.50	18.97	7.32	14.15	22.19	16.93	18.62	16.67	10.47	8.10	5.53	5.86
31																	24.03	12.07	8.70	8.95	6.52	8.33	3.94	8.34	5.06	2.21	7.36	9.97
32																	8.63	8.42	4.16	2.71	6.99	6.22	7.62	5.42	1.97	3.16	2.53	3.68
33																	9.06	1.33	9.35	8.06	2.92	0.88	4.38	8.59	4.12	1.71	3.21	2.98
34																	17.46	5.09	7.89	4.70	6.33	2.22	6.46	2.24	2.49	2.95	3.27	2.25
MC <700m	1.43	0.59	0.61	0.95	1.12	2.24	1.40	1.10	0.97	0.85	1.20	0.92	0.88	1.53	0.86	1.40	2.56	1.77	2.79	0.97	2.27	0.56	1.01	0.49	0.43	0.57	0.28	0.34
SD<700m	0.19	0.10	0.11	0.18	0.19	0.33	0.12	0.16	0.20	0.12	0.17	0.24	0.15	0.19	0.13	0.37	0.26	0.21	0.50	0.22	0.44	0.15	0.14	0.29	0.18	0.10	0.08	0.10
MC<1400m																	8.28	5.91	5.29	3.39	5.79	3.50	4.28	3.59	2.56	2.01	1.92	1.73
SD<1400m																	0.73	0.67	0.55	0.38	0.62	0.44	0.43	0.49	0.32	0.22	0.19	0.14
Bio <700m	2009	834	852	1334	1578	3153	1975	1545	1360	1198	1692	1294	1243	2156	1211	1973	3596	2491	3933	1367	3190	782	1421	694	611	807	399	478
SD <700m	263	142	149	251	268	465	171	224	275	169	244	335	212	268	178	517	363	300	697	309	617	205	197	409	258	141	110	147
Bio <1400m																	17740	12663	11338	7271	12407	7493	9177	7688	5475	4297	4111	3701
SD <1400m																	1562	1429	1168	812	1322	942	932	1048	678	476	413	300

Table 8b. Shrimp mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, without the hauls inside the closed areas in the EU 3M survey during years 1988-2015. In green, the cases with 0 valid hauls. In yellow, the cases with 1 haul left.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	4.34	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.03	0.55	1.06	0.07	12.11	1.68	1.72	0.07	0.44	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.06	0.00	0.01	0.00	0.02	1.03	0.26	2.17	6.86	6.95	24.24	28.00	31.15	24.62	14.43	5.70	0.24	0.13	0.43	0.26	0.01	0.01	0.05	0.00	0.02	
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	2.70	2.07	10.17	13.91	14.65	15.10	59.03	25.76	0.24	0.02	0.06	0.32	0.00	0.02	0.00	0.01	0.01	
5	0.00	0.00	0.00	0.05	0.08	0.00	0.00	0.06	0.13	0.60	3.14	9.08	25.16	11.53	10.25	40.30	8.80	9.04	7.08	5.95	0.12	0.29	0.23	0.01	0.09	0.06	0.02	0.01	
6	0.00	0.00	0.02	0.28	0.05	0.04	0.00	0.17	1.43	1.68	12.00	8.20	4.82	14.00	20.76	32.22	18.47	16.34	4.52	6.98	0.34	0.01	0.65	0.00	0.05	0.10	0.02	0.05	
7	0.17	0.17	1.90	6.51	19.47	12.85	0.85	2.73	6.24	5.81	11.74	13.12	9.47	13.94	18.31	14.88	27.83	29.19	12.50	14.98	4.27	0.29	4.52	0.07	0.42	0.74	0.26	0.70	
8	0.11	0.59	0.50	1.83	13.12	6.33	0.04	2.13	4.78	3.12	9.47	46.53	6.49	54.69	22.35	13.61	23.51	66.72	35.81	8.23	22.50	3.57	3.78	0.07	0.36	0.65	0.20	0.76	
9	1.35	0.84	0.55	3.59	2.11	2.61	0.01	12.09	7.74	6.87	44.72	15.60	30.57	19.78	23.10	19.61	18.98	19.31	34.28	30.50	27.69	1.15	5.62	0.74	0.50	0.77	0.24	0.86	
10	0.91	0.38	1.84	11.82	17.96	7.66	5.19	6.88	5.58	5.57	22.64	14.85	29.78	15.10	15.64	38.80	18.87	23.15	4.84	25.62	5.29	1.22	3.68	0.46	0.25	0.28	0.20	1.75	
11	0.83	0.00	0.93	6.82	25.26	7.39	3.33	4.21	6.51	6.22	22.61	13.75	14.78	19.96	16.74	29.97	21.47	25.37	10.11	26.78	3.43	1.62	6.63	0.15	0.59	0.45	0.68	1.15	
12	8.80	6.51	3.38	19.39	37.27	20.00	6.70	9.51	10.19	9.75	11.41	27.56	8.17	12.62	12.20	4.37	13.47	22.16	17.06	22.00	17.74	6.36	11.86	2.71	2.33	2.28	2.95	2.45	
13	1.94	1.30	1.21	1.90	0.84	3.62	0.00	0.86	12.53	11.86	29.26	33.86	1.15	26.23	5.64	1.02	7.05	27.21	20.82	11.24	32.53	4.49	2.41	1.70	2.03	2.77	4.59	11.39	
14	3.18	2.87	4.72	10.14	20.43	n.s.	6.93	7.87	8.80	3.57	21.85	12.40	12.39	7.56	16.37	4.66	10.24	34.24	11.50	21.85	19.85	2.68	3.80	5.73	0.87	1.47	1.76	1.87	
15	4.55	3.70	6.50	16.73	28.40	22.85	10.31	11.49	10.38	3.74	14.66	8.60	12.65	6.28	8.87	5.34	12.65	15.38	17.33	17.98	21.89	7.30	9.28	4.58	1.67	1.13	1.27	2.24	
16	3.64	2.77	2.95	2.03	3.58	1.58	0.52	0.38	1.75	1.44	3.97	1.38	4.37	3.34	5.15	1.14	8.04	20.94	10.17	6.23	1.09	1.99	1.71	2.66	1.36	0.36	0.44	0.65	
17	0.07	0.34	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.22	0.00	0.01	0.34	6.79	1.93	1.16	0.08	0.00	0.33	0.00	0.00	0.00	0.04	
18	NA	0.00	0.00	0.00	NA	n.s.	0.00	0.04	1.07	0.00	0.00	0.07	0.34	0.02	0.97	0.05	1.60	1.37	4.10	0.01	1.07	0.21	0.10	0.12	0.01	0.00	0.00	0.00	
19	1.01	6.35	0.07	12.96	5.98	3.38	2.01	7.46	8.50	5.50	18.56	2.62	2.71	4.55	5.47	0.74	6.81	9.68	3.14	2.36	1.10	3.35	1.07	4.00	0.74	0.24	0.63	0.28	
20																	0.12	5.05	0.42	0.28	0.07	0.01	0.00	0.56	0.00	0.00	0.00	0.00	
21																	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22																	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25																	0.00	0.00	0.00	NA	NA	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00
28																	0.84	1.95	2.47	0.76	1.01	0.37	0.08	0.16	0.10	0.16	0.00	0.00	0.00
29																	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
33																	0.00	0.42	0.02	0.00	0.01	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																	0.00	0.19	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC <700m	1.55	1.36	1.55	5.90	11.89	5.86	2.40	3.79	4.73	3.63	12.18	12.40	10.87	14.04	13.09	17.20	14.44	22.18	11.67	12.44	7.97	1.95	3.47	1.23	0.76	0.60	0.65	1.12	
SD <700m	0.27	0.28	0.20	0.74	1.87	0.90	0.35	0.41	0.33	0.25	0.79	1.43	1.11	2.08	1.13	1.16	0.78	1.77	1.41	1.42	1.51	0.25	0.37	0.17	0.15	0.05	0.08	0.18	
MC <1400m																	10.09	15.70	8.23	8.70	5.59	1.37	2.42	0.88	0.53	0.42	0.45	0.78	
SD <1400m																	0.55	1.23	0.98	0.99	1.05	0.17	0.26	0.12	0.11	0.03	0.06	0.12	
Bio <700m	2142	1872	2144	8150	16425	8091	3313	5241	6530	5018	16820	17123	15018	19395	18072	23760	19942	30635	16117	17185	11014	2688	4793	1698	1043	822	892	1541	
SD <700m	375	393	279	1026	2580	1238	477	560	458	340	1091	1968	1539	2869	1564	1604	1081	2443	1952	1956	2086	343	512	233	211	68	117	244	
Bio <1400m																	20010	31144	16318	17259	11090	2722	4799	1748	1050	834	892	1541	
SD <1400m																	1083	2445	1953	1956	2086	344	512	234	212	68	117	244	

Table 9a.- Greenland halibut mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, with all the hauls in the EU 3M survey during years 1988-2015.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05	0.02	0.00	0.10	0.09	0.00	0.12	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.31	0.38	0.09	0.10	0.21	0.03	0.00	0.26	1.29	1.09	4.38	3.27	2.91	3.36	1.67	0.67	10.17	4.97	3.88	0.26	0.00	0.05	0.08	0.00	0.00	0.00	0.00	0.00
4	3.11	0.44	0.00	0.33	0.59	0.22	0.00	0.11	0.01	0.50	0.88	3.46	4.46	3.38	1.25	2.30	7.49	1.95	3.93	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.79	0.80	0.00	0.30	0.44	0.01	0.02	0.22	0.39	1.04	1.84	4.37	3.11	2.86	0.71	1.00	2.70	2.99	2.47	0.98	0.16	0.08	0.00	0.06	0.00	0.00	0.00	0.06
6	0.48	0.27	0.23	0.19	0.13	0.23	0.00	0.49	1.61	3.44	5.46	4.94	2.68	4.01	1.57	0.31	7.04	5.03	0.92	1.14	0.13	0.00	0.00	0.00	0.00	0.00	0.03	0.02
7	0.77	0.52	0.53	1.72	2.23	0.86	1.95	8.25	10.47	12.99	23.79	21.49	14.32	8.96	3.91	3.84	9.42	5.43	7.10	6.65	4.78	0.10	0.14	0.03	0.00	0.04	0.08	0.11
8	1.76	2.58	0.72	2.08	4.40	1.63	0.53	3.86	4.17	12.36	11.48	17.94	15.28	11.28	10.19	5.97	9.42	10.84	10.57	5.02	2.63	0.36	0.00	0.00	0.00	0.00	0.00	0.00
9	4.30	2.94	1.26	1.81	7.70	0.74	1.03	4.26	3.81	6.08	11.27	8.45	4.25	8.48	3.31	3.40	11.09	2.18	13.15	11.62	9.59	0.74	0.00	0.00	0.00	0.23	0.00	0.00
10	0.84	0.71	0.46	1.35	2.84	0.25	1.85	4.14	5.65	6.80	10.80	12.05	11.08	13.75	5.86	2.30	5.94	8.35	6.71	4.41	6.13	0.20	0.15	0.04	0.00	0.00	0.00	0.01
11	0.42	0.46	0.21	0.99	2.12	2.17	2.19	4.57	6.24	5.84	11.42	12.28	10.13	9.50	3.15	2.61	5.87	9.89	2.70	4.68	5.24	0.20	0.30	0.01	0.08	0.02	0.03	0.00
12	4.54	7.24	3.22	8.51	6.93	10.44	13.65	12.73	23.77	25.16	34.45	35.58	24.33	13.80	12.16	7.65	10.10	11.42	10.94	13.95	15.59	13.62	8.32	1.41	3.72	1.57	2.67	5.84
13	1.93	2.79	6.56	1.31	0.72	4.30	4.60	3.83	8.96	14.56	16.69	20.81	11.51	7.53	15.70	1.86	13.47	9.35	6.60	11.82	12.99	6.54	8.23	1.00	0.58	0.00	0.00	2.41
14	4.57	3.22	3.54	9.80	10.56	n.s.	7.72	5.11	10.17	19.46	18.20	13.45	5.10	14.53	13.47	11.21	20.66	7.70	7.14	10.94	12.75	9.24	0.77	0.43	3.19	0.35	0.27	0.28
15	4.90	1.90	5.91	10.96	7.23	15.51	16.80	19.90	16.30	30.28	45.66	33.64	30.25	18.20	13.89	6.94	12.21	17.66	20.08	34.24	18.25	8.68	13.78	1.26	1.25	1.00	1.34	2.72
16	16.24	16.13	30.08	29.89	21.61	25.73	18.02	22.01	24.82	20.94	39.69	13.02	23.84	13.02	25.80	7.61	13.79	16.05	20.73	26.77	23.66	25.86	24.59	22.38	22.61	12.28	25.61	36.06
17	9.24	4.16	4.41	14.39	1.39	3.70	25.76	25.75	8.94	18.25	25.57	15.32	17.30	5.88	7.10	5.20	7.76	14.89	22.18	14.13	14.26	19.39	15.49	8.60	13.91	5.89	10.35	13.72
18	3.76	1.76	18.07	12.62	2.08	n.s.	13.79	34.21	6.83	19.87	27.67	33.26	6.40	20.52	24.78	38.52	20.65	15.49	21.63	30.88	25.40	19.27	18.78	20.09	11.62	14.10	24.87	24.54
19	55.50	16.91	18.58	27.57	54.99	24.31	20.39	22.28	17.59	28.33	47.15	18.39	33.26	20.27	39.74	4.57	11.02	16.56	17.59	18.87	36.87	25.62	21.11	67.02	16.79	16.74	29.26	28.27
20																	23.53	15.16	9.51	29.15	58.84	26.51	21.29	35.30	34.02	26.54	50.80	36.23
21																	13.14	2.95	5.21	10.77	31.35	22.76	19.82	18.24	21.70	28.31	17.56	66.39
22																	8.54	1.04	11.90	7.75	12.43	27.73	33.92	34.77	10.05	17.17	16.90	66.24
23																	10.75	0.00	3.44	13.07	23.45	12.53	18.89	20.16	7.41	14.09	15.21	42.86
24																	6.18	5.04	16.46	17.44	32.07	35.12	13.65	51.84	19.34	11.24	16.02	25.09
25																	78.88	0.00	10.67	14.47	17.00	24.28	15.71	19.68	15.24	13.00	32.14	14.92
28																	24.46	12.63	17.53	40.43	55.47	44.62	28.22	59.27	31.76	30.43	27.67	79.62
29																	35.35	18.50	10.36	22.86	51.26	40.24	35.06	31.41	34.39	31.66	70.74	110.62
30																	13.39	0.78	18.33	31.21	33.51	50.87	35.59	43.31	31.33	30.98	25.90	99.03
31																	20.19	0.00	13.09	12.82	14.21	34.87	11.79	23.59	3.02	17.03	27.86	60.26
32																	18.86	8.79	42.76	32.77	55.30	75.35	48.49	60.37	34.56	39.20	82.25	135.76
33																	27.38	11.24	46.49	12.67	53.43	23.68	31.26	54.13	24.46	45.43	36.31	41.45
34																	41.28	22.54	29.11	34.29	40.54	52.12	27.62	53.31	38.79	47.27	27.10	33.52
MC <700m	4.92	3.07	4.12	5.80	6.20	4.72	5.71	7.63	8.18	11.42	17.22	14.00	11.84	9.44	8.60	4.48	8.74	8.18	8.32	9.27	8.63	5.53	4.68	4.78	3.05	1.99	3.67	4.67
SD<700m	0.55	0.27	0.58	0.58	0.99	0.68	0.48	0.86	0.62	0.81	0.96	1.02	0.66	0.56	0.47	0.44	0.57	0.44	0.43	1.12	0.85	0.52	0.52	1.94	0.24	0.25	0.39	0.89
MC<1400m																	13.38	7.99	10.96	14.34	18.47	16.82	12.70	16.58	10.97	10.92	13.67	26.96
SD<1400m																	1.24	0.39	0.58	1.17	1.23	1.43	0.84	1.83	0.66	0.86	0.88	1.90
Bio <700m	6924	4322	5799	8166	8723	6638	8036	10744	11505	16073	24228	19699	16657	13285	12100	6311	12293	11518	11709	13040	12141	7776	6591	6722	4291	2800	5168	6577
SD <700m	770	381	809	818	1393	955	680	1213	868	1139	1345	1431	926	790	664	621	799	623	609	1572	1202	725	731	2727	338	345	542	1248
Bio <1400m																	28676	17127	23476	30731	39573	36047	27220	35523	23506	23390	29289	57766
SD <1400m																	2666	845	1240	2512	2640	3075	1794	3928	1416	1847	1880	4074

Table 9b.- Greenland halibut mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, without the hauls inside the closed areas in the EU 3M survey during years 1988-2015. In green, the cases with 0 valid hauls. In yellow, the cases with 1 haul left.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05	0.02	0.00	0.10	0.09	0.00	0.12	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.31	0.38	0.09	0.10	0.21	0.03	0.00	0.26	1.29	1.09	4.38	3.27	2.91	3.36	1.67	0.67	10.17	4.97	3.88	0.26	0.00	0.05	0.08	0.00	0.00	0.00	0.00	0.00
4	3.11	0.44	0.00	0.33	0.59	0.22	0.00	0.11	0.01	0.50	0.88	3.46	4.46	3.38	1.25	2.30	7.49	1.95	3.93	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5	0.79	0.80	0.00	0.30	0.44	0.01	0.02	0.22	0.39	1.04	1.84	4.37	3.11	2.86	0.71	1.00	2.70	2.99	2.47	0.98	0.16	0.08	0.00	0.06	0.00	0.00	0.00	0.06
6	0.48	0.27	0.23	0.19	0.13	0.23	0.00	0.49	1.61	3.44	5.46	4.94	2.68	4.01	1.57	0.31	7.04	5.03	0.92	1.14	0.13	0.00	0.00	0.00	0.00	0.00	0.03	0.02
7	0.77	0.52	0.53	1.72	2.23	0.86	1.95	8.25	10.47	12.99	23.79	21.49	14.32	8.96	3.91	3.84	9.42	5.43	7.10	6.65	4.78	0.10	0.14	0.03	0.00	0.04	0.08	0.11
8	1.76	2.58	0.72	2.08	4.40	1.63	0.53	3.86	4.17	12.36	11.48	17.94	15.28	11.28	10.19	5.97	9.42	10.84	10.57	5.02	2.63	0.36	0.00	0.00	0.00	0.00	0.00	0.00
9	4.30	2.94	1.26	1.81	7.70	4.74	1.03	4.26	3.81	6.08	11.27	8.45	4.25	8.48	3.31	3.40	11.09	2.18	13.15	11.62	9.59	0.74	0.00	0.00	0.00	0.23	0.00	0.00
10	0.84	0.71	0.46	1.35	2.84	0.25	1.85	4.14	5.65	6.80	10.80	12.05	11.08	13.75	5.86	2.30	5.94	8.35	6.71	4.41	6.13	0.20	0.15	0.04	0.00	0.00	0.00	0.01
11	0.42	0.46	0.21	0.99	2.12	2.17	2.19	4.57	6.24	5.84	11.42	12.28	10.13	9.50	3.15	2.61	5.87	9.89	2.70	4.68	5.24	0.20	0.30	0.01	0.08	0.02	0.03	0.00
12	4.54	7.24	3.22	8.51	6.93	10.44	13.65	12.73	23.77	25.16	34.45	35.58	24.33	13.80	12.16	7.65	10.10	11.42	10.94	13.95	15.59	13.62	8.32	1.41	3.72	1.57	2.67	5.84
13	1.93	2.79	6.56	1.31	0.72	4.30	4.60	3.83	8.96	14.56	16.69	20.81	11.51	7.53	15.70	1.86	13.47	9.35	6.60	11.82	12.99	6.54	8.23	1.00	0.58	0.00	0.00	2.41
14	4.57	3.22	3.54	9.80	10.56	n.s.	7.72	5.11	10.17	19.46	18.20	13.45	5.10	14.53	13.47	11.21	20.66	7.70	7.14	10.49	12.75	9.24	0.77	0.43	1.84	0.35	0.27	0.28
15	4.90	1.90	5.91	10.96	7.23	15.51	16.80	19.90	16.30	30.28	45.66	33.64	30.25	18.20	13.89	6.94	12.21	17.66	20.08	34.24	18.25	8.68	13.78	1.26	1.25	1.00	1.34	2.72
16	16.24	16.13	30.08	29.89	21.61	25.73	18.02	23.56	24.82	20.94	39.69	13.02	23.84	13.02	26.05	7.61	14.66	16.81	21.35	26.77	24.46	26.25	23.99	24.90	22.61	12.64	25.61	39.14
17	9.24	4.16	5.20	16.96	1.39	3.70	25.76	25.75	8.94	19.55	25.57	15.32	24.34	3.22	5.09	5.20	7.76	14.89	22.18	14.13	14.26	19.39	24.83	8.60	12.63	4.39	10.35	17.29
18	NA	3.53	18.07	12.62	NA	n.s.	12.22	34.21	6.83	23.61	35.33	33.26	6.40	35.24	24.78	38.52	20.65	20.46	21.63	58.97	28.90	31.37	27.74	14.66	13.25	22.07	34.93	46.41
19	55.50	11.86	18.58	16.94	38.76	23.77	20.39	22.28	16.54	29.36	63.87	21.66	31.59	13.57	40.83	2.62	11.02	19.57	17.59	19.68	36.87	29.52	21.11	86.45	14.40	14.76	25.77	28.27
20																	23.53	15.16	9.51	29.15	58.84	26.51	21.29	35.30	34.02	26.54	50.80	36.23
21																	15.25	3.93	3.45	13.45	31.35	25.34	22.32	20.96	21.70	28.31	14.37	66.39
22																	7.76	2.09	15.52	8.97	15.27	27.73	35.79	34.77	10.05	18.69	19.98	75.49
23																	8.72	0.00	3.44	15.97	23.45	12.53	18.89	20.16	8.25	14.09	13.26	42.86
24																	6.78	10.08	17.19	17.44	40.73	44.62	10.46	51.84	22.39	10.45	22.49	25.58
25																	78.88	0.00	16.80	NA	NA	29.67	19.56	NA	7.02	12.40	32.14	14.62
28																	24.46	12.63	17.53	40.43	55.47	44.62	28.22	59.27	31.76	30.43	27.67	79.62
29																	21.90	18.70	14.17	25.15	70.13	39.58	35.06	30.66	36.85	21.33	86.25	94.95
30																	13.39	0.78	15.03	34.10	33.51	50.87	33.53	43.31	31.33	31.27	25.70	98.25
31																	20.19	0.00	24.68	12.60	14.21	34.87	15.29	23.59	3.02	17.03	27.86	60.26
32																	18.86	8.79	42.76	32.77	55.30	75.35	48.49	60.37	34.56	39.20	82.25	135.76
33																	27.38	11.24	46.49	12.67	53.43	23.68	31.26	54.13	24.46	45.43	36.31	41.45
34																	41.28	22.54	29.11	34.29	40.54	52.12	27.62	53.31	38.79	47.27	27.10	33.52
MC <700m	4.59	2.82	3.88	5.24	5.36	4.60	5.48	7.36	8.06	11.32	17.57	13.92	11.82	9.17	8.27	4.11	8.65	8.26	8.14	9.31	8.38	5.53	4.66	5.04	2.67	1.80	3.29	4.80
SD <700m	0.50	0.22	0.50	0.40	0.82	0.73	0.47	0.77	0.60	0.80	0.85	0.85	0.61	0.43	0.44	0.32	0.53	0.47	0.44	0.95	0.80	0.43	0.46	2.72	0.20	0.19	0.30	0.84
MC <1400m																	12.44	8.44	10.82	14.50	18.41	16.11	11.95	15.76	10.34	9.92	13.10	24.67
SD <1400m																	0.87	0.41	0.58	1.12	1.73	1.52	0.78	2.21	0.66	0.83	1.15	1.86
Bio <700m	6338	3900	5363	7231	7405	6348	7565	10160	11133	15637	24271	19229	16319	12666	11423	5675	11949	11402	11243	12859	11568	7633	6438	6959	3693	2482	4550	6631
SD <700m	688	306	686	550	1130	1002	647	1058	826	1103	1176	1178	847	593	612	445	731	655	605	1305	1107	599	641	3751	280	261	420	1157
Bio <1400m																	24671	16749	21467	28759	36519	31963	23705	31258	20504	19677	25979	48941
SD <1400m																	1721	812	1159	2219	3440	3023	1547	4382	1300	1644	2281	3682

Table 10a.- *Sebastes juveniles* mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, with all the hauls in the EU 3M survey during years 1988-2015.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
1	0.00	0.00	0.16	2.04	0.19	3.27	1.96	0.00	0.00	0.00	0.00	0.00	0.00	3.04	47.61	34.55	0.82	3.12	0.03	7.46	0.16	0.08	0.14	0.15	0.11	0.12	0.00	0.00	
2	0.00	0.00	0.30	0.24	0.31	0.95	0.00	0.03	0.03	0.00	0.01	0.04	0.91	6.21	13.85	3.73	185.18	52.81	3.29	2.22	0.08	0.06	0.75	0.28	0.08	0.10	0.05	0.00	
3	0.00	0.00	1.02	1.50	0.90	1.84	0.87	0.07	0.06	0.00	0.04	0.19	0.92	25.69	11.57	3.88	44.90	151.54	188.53	26.69	3.64	0.15	4.37	1.40	0.24	0.23	0.08	0.04	
4	0.00	0.00	0.21	0.36	0.06	0.52	0.07	0.02	0.01	0.04	0.02	0.01	0.04	1.40	0.78	5.45	51.13	46.89	3.56	0.46	0.28	0.79	8.51	0.18	0.08	0.05	0.15	0.06	
5	0.00	0.00	0.57	1.54	2.88	0.91	1.14	0.55	0.25	0.21	0.13	0.54	5.24	2.22	8.91	22.72	59.88	475.79	22.39	28.27	20.31	0.27	1.28	1.07	0.26	0.34	0.08	0.06	
6	0.00	0.00	2.55	4.79	8.24	4.65	1.37	0.84	0.78	1.75	0.29	0.70	1.72	7.80	30.60	9.50	46.43	76.09	188.87	101.67	9.96	0.81	7.86	2.02	0.75	0.42	0.21	0.29	
7	0.00	0.00	19.06	7.83	79.46	36.68	35.18	0.29	0.95	2.04	2.51	0.25	2.07	3.24	6.97	1.61	14.06	7.72	13.24	61.93	85.61	11.92	8.54	13.76	4.37	0.62	0.91	2.05	
8	0.00	0.00	3.85	4.38	26.99	11.84	2.66	0.02	0.22	0.22	1.02	0.76	1.08	3.13	3.83	3.60	2.10	5.39	14.95	69.73	168.04	1.83	6.96	3.39	0.45	0.37	0.98	2.33	
9	0.00	0.00	2.35	0.33	26.56	343.29	83.11	0.00	0.00	3.80	5.20	0.00	2.80	3.24	133.06	11.17	2.19	14.64	16.10	332.60	510.77	2.94	17.77	29.67	0.67	0.80	0.49	0.75	
10	0.00	0.00	28.73	11.33	48.50	36.88	238.88	0.45	0.44	1.18	2.22	0.66	11.61	23.24	56.75	34.38	29.30	20.84	12.60	59.90	109.00	1.11	4.95	4.59	2.58	0.93	0.38	1.74	
11	0.00	0.00	54.00	8.84	60.05	59.79	58.20	0.54	0.98	2.25	3.11	0.50	4.77	8.47	38.58	4.50	9.50	14.93	69.09	158.54	107.35	6.04	5.92	4.37	2.99	0.56	1.14	4.07	
12	0.00	0.00	30.08	0.01	0.62	2.96	3.68	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	3.27	0.05	0.00	0.07	0.05	0.18	1.00	0.16	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.00	13.86	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.00	5.14	1.42	2.38	n.s.	17.37	0.00	0.00	0.00	0.00	0.00	0.00	0.19	2.21	0.53	0.16	0.05	0.50	0.04	36.07	0.39	0.30	0.65	0.01	0.12	0.06	0.27	
15	0.00	0.00	24.77	0.16	1.18	5.54	101.85	0.00	0.00	0.00	0.00	0.00	0.07	0.03	1.08	2.78	0.00	0.00	0.01	0.00	46.00	1.98	0.12	0.00	0.00	0.00	0.04	0.00	
16	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	0.06	n.s.	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
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MC <700m	0.00	0.00	12.85	3.19	18.51	22.82	39.25	0.19	0.26	0.66	0.88	0.25	2.28	5.98	18.38	8.37	29.92	54.51	30.83	45.18	57.19	2.00	3.61	3.23	0.93	0.30	0.30	0.83	
SD <700m	0.00	0.00	2.35	0.43	3.44	10.35	15.95	0.04	0.05	0.10	0.19	0.04	0.28	1.46	2.82	2.39	6.89	24.35	7.87	14.27	12.14	0.51	0.69	0.85	0.20	0.04	0.04	0.17	
MC <1400m																		19.65	35.80	20.25	29.67	37.57	1.31	2.37	2.12	0.61	0.20	0.20	0.54
SD <1400m																		4.52	15.99	5.17	9.37	7.97	0.33	0.45	0.56	0.13	0.03	0.03	0.11
Bio <700m	0	0	18083	4486	26047	32122	55238	266	368	932	1234	349	3213	8410	25870	11778	42111	76711	43392	63577	80491	2812	5083	4544	1307	419	424	1167	
SD <700m	0	0	3303	605	4847	14569	22442	51	68	139	266	59	400	2049	3970	3360	9694	34268	11071	20081	17084	712	972	1195	284	56	54	232	
Bio <1400m																		42111	76711	43392	63577	80491	2812	5083	4544	1307	419	424	1167
SD <1400m																		9694	34268	11071	20081	17084	712	972	1195	284	56	54	232

Table 10b.- *Sebastes juveniles* mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, without the hauls inside the closed areas in the EU 3M survey during years 1988-2015. In green, the cases with 0 valid hauls. In yellow, the cases with 1 haul left.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
1	0.00	0.00	0.16	2.04	0.19	3.27	1.96	0.00	0.00	0.00	0.00	0.00	0.00	3.04	47.61	34.55	0.82	3.12	0.03	7.46	0.16	0.08	0.14	0.15	0.11	0.12	0.00	0.00	
2	0.00	0.00	0.30	0.24	0.31	0.95	0.00	0.03	0.03	0.00	0.01	0.04	0.91	6.21	13.85	3.73	185.18	52.81	3.29	2.22	0.08	0.06	0.75	0.28	0.08	0.10	0.05	0.00	
3	0.00	0.00	1.02	1.50	0.90	1.84	0.87	0.07	0.06	0.00	0.04	0.19	0.92	25.69	11.57	3.88	44.90	151.54	188.53	26.69	3.64	0.15	4.37	1.40	0.24	0.23	0.08	0.04	
4	0.00	0.00	0.21	0.36	0.06	0.52	0.07	0.02	0.01	0.04	0.02	0.01	0.04	1.40	0.78	5.45	51.13	46.89	3.56	0.46	0.28	0.79	8.51	0.18	0.08	0.05	0.15	0.06	
5	0.00	0.00	0.57	1.54	2.88	0.91	1.14	0.55	0.25	0.21	0.13	0.54	5.24	2.22	8.91	22.72	59.88	475.79	22.39	28.27	20.31	0.27	1.28	1.07	0.26	0.34	0.08	0.06	
6	0.00	0.00	2.55	4.79	8.24	4.65	1.37	0.84	0.78	1.75	0.29	0.70	1.72	7.80	30.60	9.50	46.43	76.09	188.87	101.67	9.96	0.81	7.86	2.02	0.75	0.42	0.21	0.29	
7	0.00	0.00	19.06	7.83	79.46	36.68	35.18	0.29	0.95	2.04	2.51	0.25	2.07	3.24	6.97	1.61	14.06	7.72	13.24	61.93	85.61	11.92	8.54	13.76	4.37	0.62	0.91	2.05	
8	0.00	0.00	3.85	4.38	26.99	11.84	2.66	0.02	0.22	0.22	1.02	0.76	1.08	3.13	3.83	3.60	2.10	5.39	14.95	69.73	168.04	1.83	6.96	3.39	0.45	0.37	0.98	2.33	
9	0.00	0.00	2.35	0.33	26.56	343.29	83.11	0.00	0.00	3.80	5.20	0.00	2.80	3.24	133.06	11.17	2.19	14.64	16.10	332.60	510.77	2.94	17.77	29.67	0.67	0.80	0.49	0.75	
10	0.00	0.00	28.73	11.33	48.50	36.88	238.88	0.45	0.44	1.18	2.22	0.66	11.61	23.24	56.75	34.38	29.30	20.84	12.60	59.90	109.00	1.11	4.95	4.59	2.58	0.93	0.38	1.74	
11	0.00	0.00	54.00	8.84	60.05	59.79	58.20	0.54	0.98	2.25	3.11	0.50	4.77	8.47	38.58	4.50	9.50	14.93	69.09	158.54	107.35	6.04	5.92	4.37	2.99	0.56	1.14	4.07	
12	0.00	0.00	30.08	0.01	0.62	2.96	3.68	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	3.27	0.05	0.00	0.07	0.05	0.18	1.00	0.16	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.00	13.86	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	5.14	1.42	2.38	n.s.	17.37	0.00	0.00	0.00	0.00	0.00	0.00	0.19	2.21	0.53	0.16	0.05	0.50	0.05	36.07	0.39	0.30	0.65	0.01	0.12	0.06	0.27	
15	0.00	0.00	24.77	0.16	1.18	5.54	101.85	0.00	0.00	0.00	0.00	0.00	0.07	0.03	1.08	2.78	0.00	0.00	0.01	0.00	46.00	1.98	0.12	0.00	0.00	0.00	0.04	0.00	
16	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	NA	0.00	0.00	0.00	NA	n.s.	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25																	0.00	0.00	0.00	NA	NA	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00
28																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC <700m	0.00	0.00	13.09	3.25	18.86	23.26	39.98	0.19	0.27	0.67	0.89	0.25	2.33	6.09	18.73	8.53	30.49	55.54	31.42	46.03	58.24	2.04	3.68	3.29	0.95	0.30	0.31	0.84	
SD <700m	0.00	0.00	2.32	0.44	3.51	10.50	16.25	0.04	0.05	0.10	0.19	0.04	0.29	1.48	2.81	2.37	7.02	24.81	8.02	14.50	12.29	0.51	0.69	0.87	0.20	0.04	0.04	0.17	
MC <1400m																	21.23	38.68	21.88	32.05	40.56	1.42	2.56	2.29	0.66	0.21	0.21	0.59	
SD <1400m																	4.89	17.28	5.58	10.10	8.56	0.36	0.48	0.60	0.14	0.03	0.03	0.12	
Bio <700m	0	0	18076	4484	26042	32120	55212	266	368	932	1234	349	3212	8409	25865	11778	42108	76707	43389	63575	80439	2811	5082	4543	1307	419	424	1167	
SD <700m	0	0	3207	605	4846	14505	22437	50	68	139	266	58	397	2049	3885	3275	9693	34266	11070	20033	16976	711	951	1195	282	55	54	231	
Bio <1400m																	42110	76711	43392	63578	80443	2811	5083	4543	1307	419	424	1167	
SD <1400m																	9694	34268	11071	20034	16977	711	951	1195	282	55	54	231	

Table 11a.- *Sebastes fasciatus* mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, with all the hauls in the EU 3M survey during years 1988-2015.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.19	0.03	0.78	1.08	0.00	0.00	0.39	85.49	53.80	14.39	0.26	0.00	0.40	0.00	0.00	0.06	0.01	0.00	0.00	0.00		
2	0.00	0.00	0.00	0.03	1.19	0.00	0.08	0.15	0.06	0.44	1.66	1.12	0.80	0.34	10.32	0.31	44.51	57.03	23.27	0.10	0.00	0.00	0.03	0.05	0.03	0.05	0.01	0.02	
3	0.00	0.00	0.00	0.53	1.66	0.26	0.75	5.54	0.99	0.84	1.64	0.94	2.80	4.72	6.45	0.00	10.04	67.33	371.44	45.76	8.40	0.18	14.69	2.47	0.98	2.13	0.24	0.16	
4	0.00	0.00	0.00	1.28	0.37	0.15	0.65	1.36	2.97	14.79	1.32	0.83	0.64	4.23	0.82	37.49	22.88	45.29	266.78	0.53	0.39	9.67	1.26	0.13	0.04	0.00	0.06	0.45	
5	0.00	0.00	0.00	1.73	3.04	0.45	0.55	2.30	2.42	25.27	3.43	3.53	12.04	4.45	5.64	12.59	173.93	333.41	404.44	297.85	56.75	0.95	2.71	1.52	0.54	3.01	0.07	0.06	
6	0.00	0.00	0.00	1.85	1.55	0.44	6.34	5.10	4.81	111.59	2.25	7.48	2.39	2.86	4.19	0.00	141.60	97.17	837.84	305.72	5.85	45.87	23.42	1.74	8.67	4.78	0.43	0.54	
7	0.00	0.00	0.00	10.61	4.16	2.16	17.57	4.03	9.12	6.41	8.79	7.43	11.11	9.46	8.51	3.12	69.24	89.52	399.96	136.98	170.17	34.16	92.20	99.80	285.66	169.36	4.40	31.50	
8	0.00	0.00	0.00	7.05	7.68	1.57	1.94	3.30	14.80	12.70	10.43	15.90	12.14	11.78	15.50	14.42	65.49	67.60	413.88	166.32	759.46	46.66	65.19	74.22	110.03	164.14	2.68	92.91	
9	0.00	0.00	0.00	17.49	3.51	18.09	74.76	15.73	137.71	68.15	26.20	11.72	74.33	23.98	204.64	39.31	116.14	106.78	332.05	1173.39	135.95	1727.21	900.91	77.98	178.27	36.42	16.41	9.48	
10	0.00	0.00	0.00	16.39	14.42	24.15	8.15	18.40	18.61	14.81	8.89	23.77	30.59	33.46	26.69	26.89	130.11	286.95	266.89	467.38	318.57	18.63	120.71	18.02	28.98	39.73	9.54	19.23	
11	0.00	0.00	0.00	7.46	13.95	2.81	2.72	3.31	6.56	17.78	9.83	12.07	8.98	27.51	16.63	4.83	47.77	103.18	375.44	217.20	239.25	376.71	68.93	26.25	73.74	123.44	54.07	34.41	
12	0.00	0.00	0.00	3.66	2.51	0.73	2.33	0.93	1.13	0.73	2.11	5.67	2.24	2.66	5.54	16.25	12.74	13.90	15.23	33.45	113.71	173.02	74.38	94.41	47.10	45.89	39.04	141.23	
13	0.00	0.00	0.00	1.86	0.00	0.38	1.28	0.96	1.14	1.97	2.01	3.42	1.55	4.96	3.36	7.92	11.64	13.91	56.34	18.77	42.41	282.57	44.36	86.90	83.03	413.22	311.54	174.12	
14	0.00	0.00	0.00	0.84	3.24	n.s.	6.38	1.28	2.59	3.08	7.18	2.95	16.35	5.48	28.36	7.18	5.43	12.32	78.86	14.15	193.25	138.98	23.42	64.17	56.44	23.62	172.88	386.28	
15	0.00	0.00	0.00	1.52	1.97	2.14	9.80	2.53	1.44	1.95	3.38	2.66	5.48	8.98	6.77	5.79	10.80	12.78	29.84	492.67	143.45	93.40	87.40	191.48	115.97	131.96	110.58	139.39	
16	0.00	0.00	0.00	0.00	0.00	0.15	0.02	0.11	0.07	0.00	0.11	0.01	0.02	0.07	0.37	1.00	0.19	0.36	0.18	1.90	1.24	1.00	0.16	0.88	0.38	0.11	1.74	1.02	
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.07	1.74	0.00	0.00	0.45	0.00	0.21	0.65	0.40	0.29	0.04	0.00	0.07	0.39	
18	0.00	0.00	0.00	0.00	0.71	n.s.	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.24	0.46	1.23	0.00	0.63	5.22	0.00	1.36	0.88	0.00	0.51	4.32	0.03	0.42	19.54	
19	0.00	0.00	0.00	0.08	0.04	0.11	0.27	0.09	0.02	0.17	0.45	0.04	0.19	0.30	0.25	2.64	0.23	1.47	0.19	0.69	0.55	1.80	0.51	0.17	0.55	0.89	0.13	0.03	
20																		0.00	0.15	0.00	0.06	0.08	0.15	0.02	0.00	0.02	0.02	0.00	
21																		0.01	0.00	0.00	0.00	0.03	0.08	0.04	0.00	0.00	0.00	0.00	0.00
22																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																		0.03	0.00	0.00	0.08	0.03	0.03	0.00	0.08	0.00	0.00	0.00	0.00
25																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28																		0.00	0.00	0.00	0.06	0.13	0.15	0.01	0.06	0.18	0.00	0.00	0.12
29																		0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																		0.05	0.00	0.00	0.04	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
33																		0.00	0.00	0.00	0.33	0.04	0.00	0.00	0.25	0.12	0.00	0.00	0.00
34																		0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
MC <700m	0.00	0.00	0.00	4.53	4.23	3.47	6.23	4.00	8.78	13.92	5.13	6.50	9.89	9.36	18.46	11.15	53.91	87.64	226.93	186.02	143.74	121.52	68.97	42.46	58.65	60.26	32.81	57.20	
SD <700m	0.00	0.00	0.00	0.93	0.84	1.86	1.84	0.70	3.03	5.22	0.46	0.86	1.67	0.96	5.21	2.43	12.48	18.62	43.42	36.57	41.79	51.33	19.54	7.19	11.34	12.50	7.68	8.82	
MC <1400m																		35.41	57.57	149.05	122.19	94.42	79.83	45.30	27.90	38.53	39.58	21.55	37.57
SD <1400m																		8.20	12.23	28.52	24.02	27.45	33.71	12.83	4.72	7.45	8.21	5.04	5.80
Bio <700m	0	0	0	6369	5950	4880	8773	5634	12361	19591	7215	9151	13923	13177	25985	15685	75871	123336	319370	261788	202286	171022	97058	59760	82537	84802	46174	80493	
SD <700m	0	0	0	1310	1178	2617	2595	986	4265	7340	654	1211	2350	1348	7331	3413	17560	26198	61102	51470	58807	72238	27498	10116	15960	17595	10806	12418	
Bio <1400m																		75874	123346	319373	261804	202306	171050	97064	59770	82553	84804	46176	80501
SD <1400m																		17560	26198	61102	51470	58807	72238	27498	10116	15960	17595	10806	12418

Table 11b.- *Sebastes fasciatus* mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, without the hauls inside the closed areas in the EU 3M survey during years 1988-2015. In green, the cases with 0 valid hauls. In yellow, the cases with 1 haul left.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.19	0.03	0.78	1.08	0.00	0.00	0.39	85.49	53.80	14.39	0.26	0.00	0.40	0.00	0.00	0.00	0.06	0.01	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.03	1.19	0.00	0.08	0.15	0.06	0.44	1.66	1.12	0.80	0.34	10.32	0.31	44.51	57.03	23.27	0.10	0.00	0.00	0.03	0.05	0.03	0.05	0.01	0.02	
3	0.00	0.00	0.00	0.53	1.66	0.26	0.75	5.54	0.99	0.84	1.64	0.94	2.80	4.72	6.45	0.00	10.04	67.33	371.44	45.76	8.40	0.18	14.69	2.47	0.98	2.13	0.24	0.16	
4	0.00	0.00	0.00	1.28	0.37	0.15	0.65	1.36	2.97	14.79	1.32	0.83	0.64	4.23	0.82	37.49	22.88	45.29	266.78	0.53	0.39	9.67	1.26	0.13	0.04	0.00	0.06	0.45	
5	0.00	0.00	0.00	1.73	3.04	0.45	0.55	2.30	2.42	25.27	3.43	3.53	12.04	4.45	5.64	12.59	173.93	333.41	404.44	297.85	56.75	0.95	2.71	1.52	0.54	3.01	0.07	0.06	
6	0.00	0.00	0.00	1.85	1.55	0.44	6.34	5.10	4.81	111.59	2.25	7.48	2.39	2.86	4.19	0.00	141.60	97.17	837.84	305.72	5.85	45.87	23.42	1.74	8.67	4.78	0.43	0.54	
7	0.00	0.00	0.00	10.61	4.16	2.16	17.57	4.03	9.12	6.41	8.79	7.43	11.11	9.46	8.51	3.12	69.24	89.52	399.96	136.98	170.17	34.16	92.20	99.80	285.66	169.36	4.40	31.50	
8	0.00	0.00	0.00	7.05	7.68	1.57	1.94	3.30	14.80	12.70	10.43	15.90	12.14	11.78	15.50	14.42	65.49	67.60	413.88	166.32	759.46	46.66	65.19	74.22	110.03	164.14	2.68	92.91	
9	0.00	0.00	0.00	17.49	3.51	18.09	74.76	15.73	137.71	68.15	26.20	11.72	74.33	23.98	204.64	39.31	116.14	106.78	332.05	1173.39	135.95	1727.21	900.91	77.98	178.27	36.42	16.41	9.48	
10	0.00	0.00	0.00	16.39	14.42	24.15	8.15	18.40	18.61	14.81	8.89	23.77	30.59	33.46	26.69	26.89	130.11	286.95	266.89	467.38	318.57	18.63	120.71	18.02	28.98	39.73	9.54	19.23	
11	0.00	0.00	0.00	7.46	13.95	2.81	2.72	3.31	6.56	17.78	9.83	12.07	8.98	27.51	16.63	4.83	47.77	103.18	375.44	217.20	239.25	376.71	68.93	26.25	73.74	123.44	54.07	34.41	
12	0.00	0.00	0.00	3.66	2.51	0.73	2.33	0.93	1.13	0.73	2.11	5.67	2.24	2.66	5.54	16.25	12.74	13.90	15.23	33.45	113.71	173.02	74.38	94.41	47.10	45.89	39.04	141.23	
13	0.00	0.00	0.00	1.86	0.00	0.38	1.28	0.96	1.14	1.97	2.01	3.42	1.55	4.96	3.36	7.92	11.64	13.91	56.34	18.77	42.41	282.57	44.36	86.90	83.03	413.22	311.54	174.12	
14	0.00	0.00	0.00	0.84	3.24	n.s.	6.38	1.28	2.59	3.08	7.18	2.95	16.35	5.48	28.36	7.18	5.43	12.32	78.86	16.63	193.25	138.98	23.42	64.17	64.97	23.62	172.88	386.28	
15	0.00	0.00	0.00	1.52	1.97	2.14	9.80	2.53	1.44	1.95	3.38	2.66	5.48	8.98	6.77	5.79	10.80	12.78	29.84	492.67	143.45	93.40	87.40	191.48	115.97	131.96	110.58	139.39	
16	0.00	0.00	0.00	0.00	0.00	0.15	0.02	0.07	0.07	0.00	0.11	0.01	0.02	0.07	0.40	1.00	0.13	0.29	0.22	1.90	1.07	0.97	0.20	1.05	0.38	0.05	1.74	0.95	
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.09	1.74	0.00	0.00	0.45	0.00	0.21	0.65	0.47	0.29	0.07	0.00	0.07	0.50	
18	NA	0.00	0.00	0.00	NA	n.s.	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.46	0.46	1.23	0.00	0.73	5.22	0.00	2.50	0.25	0.00	0.55	8.64	0.07	0.43	5.22	
19	0.00	0.00	0.00	0.00	0.06	0.15	0.27	0.09	0.03	0.18	0.50	0.04	0.29	0.44	0.22	5.19	0.23	1.40	0.19	0.75	0.55	1.85	0.51	0.04	0.71	1.09	0.06	0.03	
20																	0.00	0.15	0.00	0.06	0.08	0.15	0.02	0.00	0.02	0.02	0.02	0.00	
21																	0.02	0.00	0.00	0.00	0.03	0.12	0.05	0.00	0.00	0.00	0.00	0.00	
22																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24																	0.05	0.00	0.00	0.08	0.05	0.00	0.00	0.08	0.00	0.00	0.00	0.00	
25																	0.00	0.00	0.00	NA	NA	0.00	0.00	NA	0.00	0.00	0.00	0.00	
28																	0.00	0.00	0.00	0.06	0.13	0.15	0.01	0.06	0.18	0.00	0.00	0.12	
29																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																	0.05	0.00	0.00	0.04	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	
33																	0.00	0.00	0.00	0.33	0.04	0.00	0.00	0.25	0.12	0.00	0.00	0.00	
34																	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
MC <700m	0.00	0.00	0.00	4.61	4.29	3.53	6.34	4.07	8.95	14.18	5.22	6.62	10.07	9.54	18.78	11.41	54.92	89.26	231.11	189.66	146.26	123.66	70.25	43.20	60.21	61.37	33.25	57.56	
SD <700m	0.00	0.00	0.00	0.90	0.85	1.79	1.88	0.71	3.09	5.31	0.47	0.87	1.69	0.98	5.30	2.30	12.70	18.97	44.24	35.78	42.38	52.24	19.71	7.30	11.59	12.73	7.74	8.91	
MC <1400m																	38.25	62.17	160.93	132.08	101.86	86.13	48.92	30.09	41.93	42.74	23.16	40.09	
SD <1400m																	8.84	13.21	30.81	24.92	29.51	36.38	13.72	5.08	8.07	8.87	5.39	6.21	
Bio <700m	0	0	0	6364	5926	4881	8762	5628	12357	19585	7204	9146	13904	13174	25939	15756	75853	123286	319186	261942	201998	170789	97022	59669	83153	84764	45927	79503	
SD <700m	0	0	0	1246	1176	2474	2593	983	4265	7340	647	1203	2330	1347	7317	3179	17541	26197	61098	49422	58533	72145	27221	10075	16010	17588	10693	12308	
Bio <1400m																	75861	123303	319206	261973	202027	170826	97033	59681	83173	84771	45931	79516	
SD <1400m																	17542	26198	61102	49425	58536	72149	27222	10076	16011	17589	10694	12309	

Table 13a.- *Sebastes marinus* mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, with all the hauls in the EU 3M survey during years 1988-2015.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
1	0.76	23.87	8.06	8.28	0.17	2.07	1.82	12.41	2.27	30.50	12.14	0.55	1.12	2.00	31.60	168.48	13.97	6.92	34.78	32.45	1.08	0.40	1.15	0.87	0.79	0.74	0.07	0.23	
2	0.13	0.68	1.68	1.79	0.94	3.60	1.09	2.27	4.05	6.90	1.95	4.87	3.98	1.30	13.78	0.43	61.97	52.79	11.03	0.39	0.21	0.64	1.13	0.77	0.68	4.31	0.60	0.79	
3	6.72	19.31	2.37	3.60	1.69	1.40	9.33	8.57	3.17	2.64	1.57	0.70	4.69	3.76	3.07	0.00	35.64	125.30	1364.02	42.22	13.81	1.47	32.92	21.87	19.32	2.27	11.35	0.46	
4	7.80	0.28	0.41	0.90	0.17	0.80	0.94	2.38	2.98	60.94	1.58	2.25	6.06	3.86	0.54	2.44	33.00	16.11	281.09	4.81	4.20	28.29	55.60	5.10	0.51	0.22	0.51	0.38	
5	17.82	13.03	0.80	5.14	4.37	1.56	3.73	10.73	6.20	198.37	18.39	2.22	323.60	4.60	4.49	9.13	312.09	985.10	772.01	201.86	252.36	1.08	31.11	8.89	13.23	20.98	2.99	0.24	
6	13.31	10.28	12.65	10.18	2.97	3.24	202.02	20.80	12.69	440.07	4.28	17.37	4.83	2.15	3.29	0.00	269.10	98.84	493.82	114.94	14.83	75.26	90.21	7.22	130.89	18.21	19.74	8.56	
7	3.38	6.47	5.72	2.98	1.21	2.59	140.38	11.19	13.76	21.20	6.76	3.13	3.96	2.96	1.69	1.13	54.99	52.87	158.88	75.26	549.87	259.15	111.14	58.71	45.07	108.89	72.85	66.32	
8	1.10	1.18	3.77	2.14	4.07	1.07	0.54	1.89	15.54	6.01	2.94	3.79	3.05	0.96	1.18	2.99	11.12	23.07	44.98	18.82	159.37	44.85	28.73	63.88	155.73	12.74	50.56	17.60	
9	95.19	0.91	4.98	1.48	0.91	4.74	13.46	1.69	48.43	10.42	3.22	2.46	15.62	2.37	14.46	16.95	6.86	48.43	26.13	76.54	131.84	61.56	215.56	129.67	20.84	51.17	179.15	26.06	
10	16.20	117.51	19.23	10.94	12.24	19.33	28.12	25.16	23.18	32.07	7.71	21.84	25.54	44.40	28.86	138.63	96.54	135.47	59.08	278.27	490.94	81.95	34.38	21.21	92.68	51.12	46.97	116.49	
11	36.85	45.74	97.67	5.02	15.68	4.35	26.96	13.44	21.88	113.20	17.60	48.93	7.28	13.79	7.80	6.09	57.36	36.09	289.66	67.55	626.19	174.98	43.84	39.49	117.95	48.59	72.32	44.70	
12	0.00	0.00	0.06	0.16	0.00	0.00	0.02	0.07	0.31	0.06	0.22	1.38	0.50	0.33	0.43	1.92	1.07	0.95	0.33	0.30	15.56	2.92	0.25	0.00	0.00	0.33	0.73	0.29	
13	0.00	0.00	0.20	0.00	0.00	0.15	0.00	0.30	0.06	0.41	1.00	2.10	0.57	0.40	0.31	0.56	0.87	2.21	4.06	0.90	16.89	2.14	0.69	6.00	0.00	23.12	7.01	3.81	
14	11.65	0.00	0.07	0.00	0.06	n.s.	0.41	0.06	0.57	2.85	1.70	0.67	1.66	5.39	19.02	1.44	4.35	2.28	22.29	0.78	31.46	13.61	2.05	6.35	0.41	2.18	7.50	2.94	
15	1.35	0.00	0.00	0.00	0.00	0.08	0.26	0.11	0.47	0.55	0.31	0.29	0.68	4.19	1.33	1.55	1.41	0.70	2.50	5.96	13.35	3.67	0.22	6.11	0.84	3.14	0.77	1.01	
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	76.50	0.00	0.00	0.00	0.00	n.s.	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC <700m	12.21	18.03	11.22	3.26	3.29	3.21	26.47	7.22	9.00	51.67	5.12	7.93	26.61	6.98	7.81	20.26	60.68	104.89	211.94	62.58	171.09	51.44	33.67	20.65	39.37	22.75	26.41	21.79	
SD <700m	3.23	10.57	6.94	0.66	0.87	1.25	14.12	1.18	1.87	24.00	0.96	3.31	20.14	3.30	2.21	11.69	12.54	46.52	67.82	14.40	42.60	11.50	6.47	4.98	9.06	4.63	5.66	5.86	
MC <1400m																		39.86	68.89	139.21	41.10	112.37	33.79	22.11	13.56	25.86	14.94	17.35	14.31
SD <1400m																		8.24	30.55	44.54	9.46	27.98	7.55	4.25	3.27	5.95	3.04	3.72	3.85
Bio <700m	17185	25372	15795	4590	4632	4516	37256	10160	12662	72711	7200	11162	37450	9817	10985	28509	85403	147614	298273	88071	240779	72393	47378	29055	55410	32015	37173	30672	
SD <700m	4552	14875	9770	933	1218	1763	19869	1660	2630	33775	1354	4659	28337	4638	3115	16450	17653	65465	95440	20267	59958	16184	9103	7006	12745	6513	7969	8248	
Bio <1400m																		85403	147614	298273	88071	240779	72393	47378	29055	55410	32015	37173	30672
SD <1400m																		17653	65465	95440	20267	59958	16184	9103	7006	12745	6513	7969	8248

Table 13b.- *Sebastes marinus* mean catch per mile and SD by strata, as total stratified mean catch per mile and biomass, as well as SD, by year, without the hauls inside the closed areas in the EU 3M survey during years 1988-2015. In green, the cases with 0 valid hauls. In yellow, the cases with 1 haul left.

stratum	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
1	0.76	23.87	8.06	8.28	0.17	2.07	1.82	12.41	2.27	30.50	12.14	0.55	1.12	2.00	31.60	168.48	13.97	6.92	34.78	32.45	1.08	0.40	1.15	0.87	0.79	0.74	0.07	0.23		
2	0.13	0.68	1.68	1.79	0.94	3.60	1.09	2.27	4.05	6.90	1.95	4.87	3.98	1.30	13.78	0.43	61.97	52.79	11.03	0.39	0.21	0.64	1.13	0.77	0.68	4.31	0.60	0.79		
3	6.72	19.31	2.37	3.60	1.69	1.40	9.33	8.57	3.17	2.64	1.57	0.70	4.69	3.76	3.07	0.00	35.64	125.30	1364.02	42.22	13.81	1.47	32.92	21.87	19.32	2.27	11.35	0.46		
4	7.80	0.28	0.41	0.90	0.17	0.80	0.94	2.38	2.98	60.94	1.58	2.25	6.06	3.86	0.54	2.44	33.00	16.11	281.09	4.81	4.20	28.29	55.60	5.10	0.51	0.22	0.51	0.38		
5	17.82	13.03	0.80	5.14	4.37	1.56	3.73	10.73	6.20	198.37	18.39	2.22	323.60	4.60	4.49	9.13	312.09	985.10	772.01	201.86	252.36	1.08	31.11	8.89	13.23	20.98	2.99	0.24		
6	13.31	10.28	12.65	10.18	2.97	3.24	202.02	20.80	12.69	440.07	4.28	17.37	4.83	2.15	3.29	0.00	269.10	98.84	493.82	114.94	14.83	75.26	90.21	7.22	130.89	18.21	19.74	8.56		
7	3.38	6.47	5.72	2.98	1.21	2.59	140.38	11.19	13.76	21.20	6.76	3.13	3.96	2.96	1.69	1.13	54.99	52.87	158.88	75.26	549.87	259.15	111.14	58.71	45.07	108.89	72.85	66.32		
8	1.10	1.18	3.77	2.14	4.07	1.07	0.54	1.89	15.54	6.01	2.94	3.79	3.05	0.96	1.18	2.99	11.12	23.07	44.98	18.82	159.37	44.85	28.73	63.88	155.73	12.74	50.56	17.60		
9	95.19	0.91	4.98	1.48	0.91	4.74	13.46	1.69	48.43	10.42	3.22	2.46	15.62	2.37	14.46	16.95	6.86	48.43	26.13	76.54	131.84	61.56	215.56	129.67	20.84	51.17	179.15	26.06		
10	16.20	117.51	19.23	10.94	12.24	19.33	28.12	25.16	23.18	32.07	7.71	21.84	25.54	44.40	28.86	138.63	96.54	135.47	59.08	278.27	490.94	81.95	34.38	21.21	92.68	51.12	46.97	116.49		
11	36.85	45.74	97.67	5.02	15.68	4.35	26.96	13.44	21.88	113.20	17.60	48.93	7.28	13.79	7.80	6.09	57.36	36.09	289.66	67.55	626.19	174.98	43.84	39.49	117.95	48.59	72.32	44.70		
12	0.00	0.00	0.06	0.16	0.00	0.00	0.02	0.07	0.31	0.06	0.22	1.38	0.50	0.33	0.43	1.92	1.07	0.95	0.33	0.30	15.56	2.92	0.25	0.00	0.00	0.33	0.73	0.29		
13	0.00	0.00	0.20	0.00	0.00	0.15	0.00	0.30	0.06	0.41	1.00	2.10	0.57	0.40	0.31	0.56	0.87	2.21	4.06	0.90	16.89	2.14	0.69	6.00	0.00	23.12	7.01	3.81		
14	11.65	0.00	0.07	0.00	0.06	n.s.	0.41	0.06	0.57	2.85	1.70	0.67	1.66	5.39	19.02	1.44	4.35	2.28	22.29	0.97	31.46	13.61	2.05	6.35	0.47	2.18	7.50	2.94		
15	1.35	0.00	0.00	0.00	0.00	0.08	0.26	0.11	0.47	0.55	0.31	0.29	0.68	4.19	1.33	1.55	1.41	0.70	2.50	5.96	13.35	3.67	0.22	6.11	0.84	3.14	0.77	1.01		
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00		
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	NA	0.00	0.00	0.00	NA	n.s.	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
21																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25																		0.00	0.00	0.00	NA	NA	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00
28																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34																		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC <700m	10.88	18.36	11.44	3.32	3.35	3.27	26.97	7.36	9.17	52.64	5.21	8.08	27.11	7.12	7.93	20.63	61.83	106.88	215.93	63.77	174.30	52.40	34.30	21.03	40.12	23.18	26.91	22.20		
SD <700m	3.01	10.74	7.07	0.68	0.88	1.21	14.39	1.19	1.90	24.45	0.98	3.23	19.71	3.36	2.18	11.58	12.71	47.40	69.10	14.38	42.98	11.69	6.57	5.07	9.11	4.66	5.76	5.80		
MC <1400m																		43.05	74.42	150.36	44.41	121.37	36.49	23.89	14.64	27.94	16.14	18.74	15.46	
SD <1400m																		8.85	33.01	48.12	10.01	29.93	8.14	4.57	3.53	6.34	3.25	4.01	4.04	
Bio <700m	15027	25359	15794	4590	4632	4516	37253	10159	12660	72704	7198	11160	37446	9831	10959	28488	85392	147611	298227	88080	240724	72371	47373	29045	55412	32010	37160	30666		
SD <700m	4155	14837	9770	933	1218	1667	19868	1643	2629	33774	1354	4464	27227	4638	3005	15994	17550	65462	95434	19862	59363	16139	9070	7006	12583	6440	7954	8015		
Bio <1400m																		85392	147611	298227	88080	240724	72371	47373	29045	55412	32010	37160	30666	
SD <1400m																		17550	65462	95434	19862	59363	16139	9070	7006	12583	6440	7954	8015	

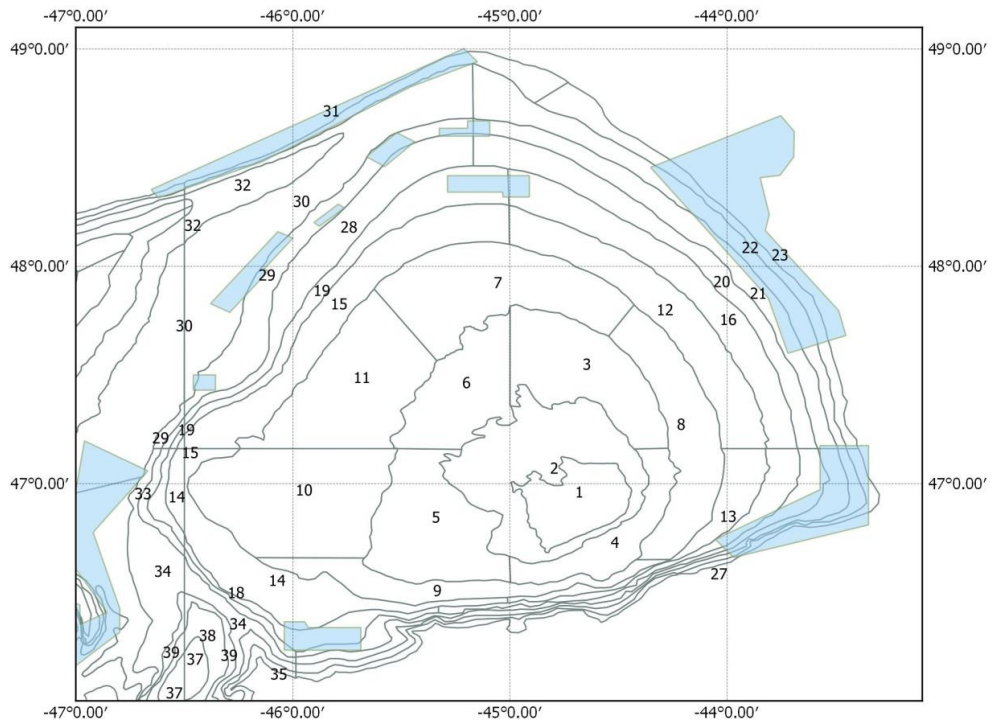


Fig.1. Stratification of the Division 3M used during the EU surveys.

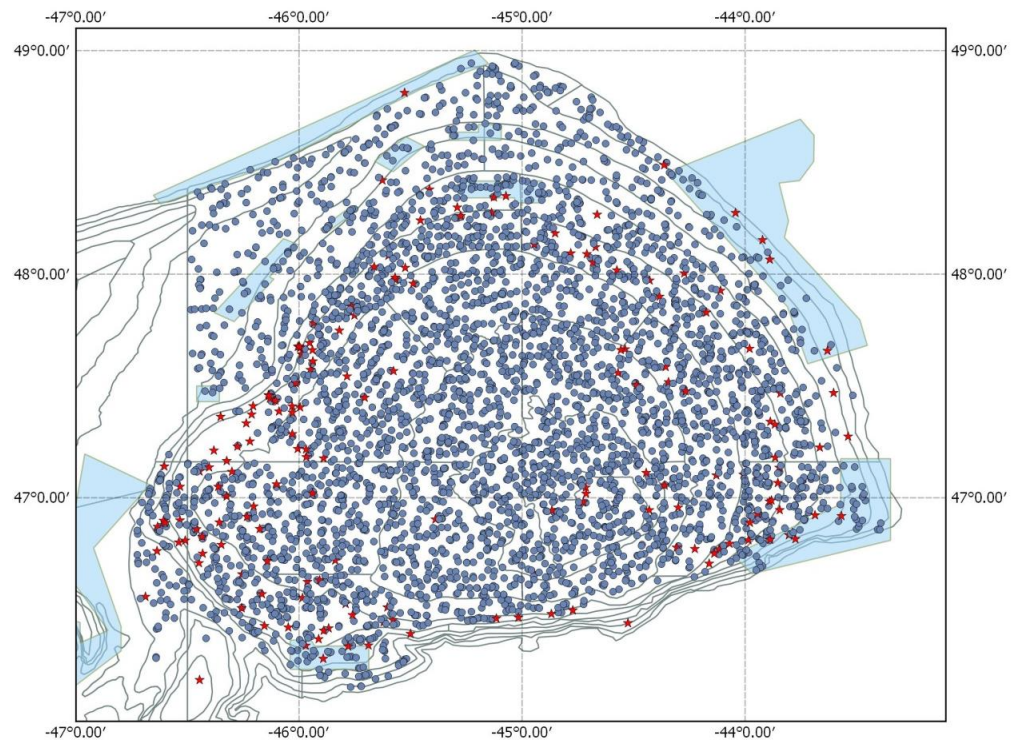


Fig. 2. Position of the hauls during the 1988-2015 EU 3M surveys. Blue dots are valid hauls and red stars are no valid hauls.

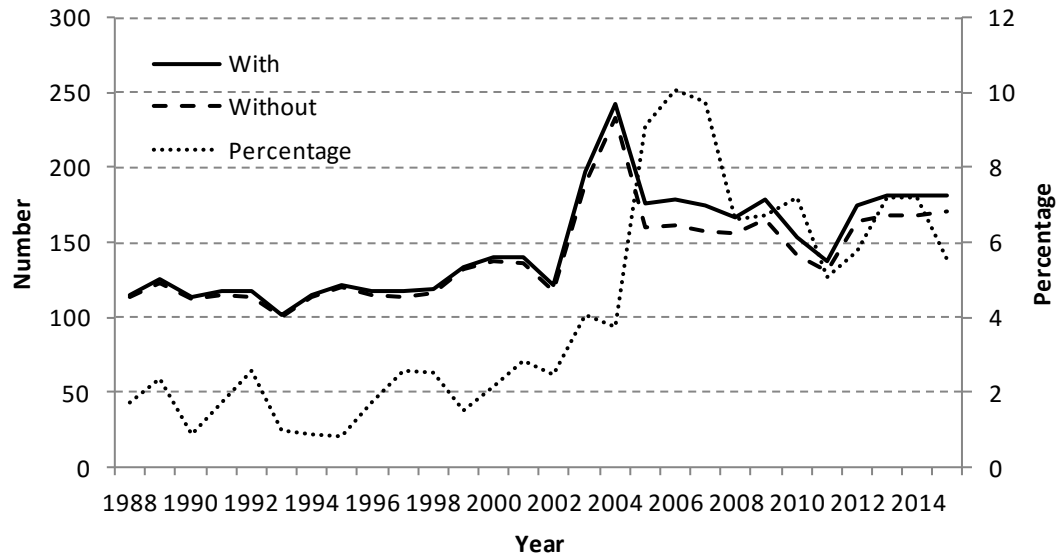


Fig. 3. Number of total valid hauls by year with and without the hauls inside the closed areas and the percentage of hauls inside closed areas.

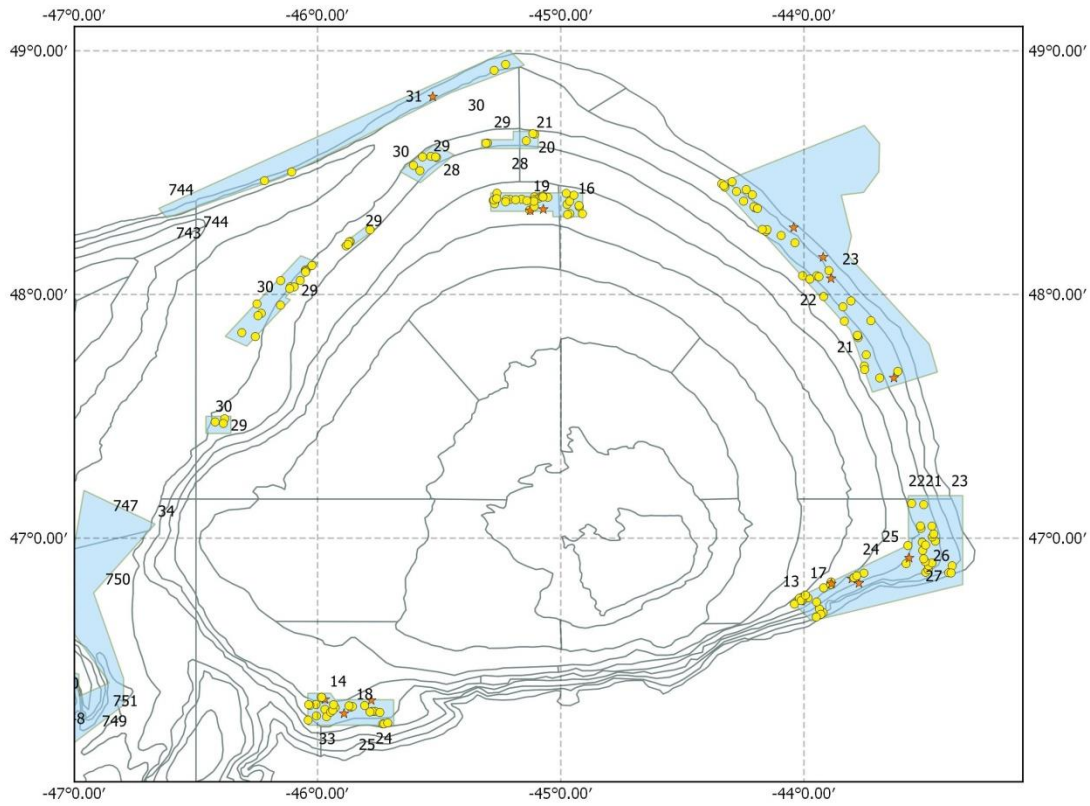


Fig. 4. Position of the hauls inside the closed areas during the 1988-2015 EU 3M surveys. Yellow dots are valid hauls and red stars are no valid hauls. The number of the strata that are affected by the closed areas are depicted in the map.

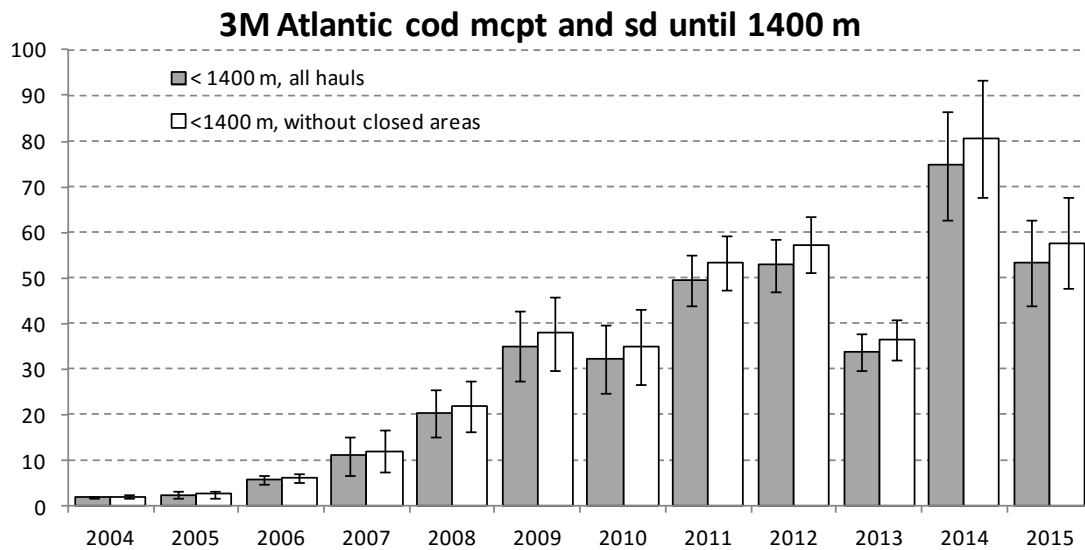
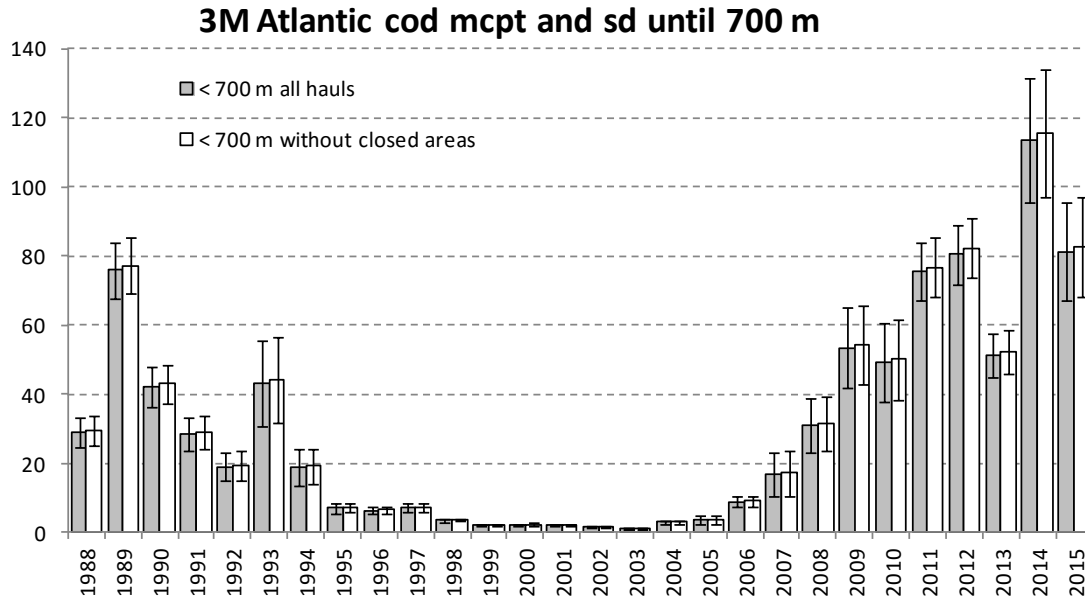


Fig. 5. 3M Atlantic cod stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom).

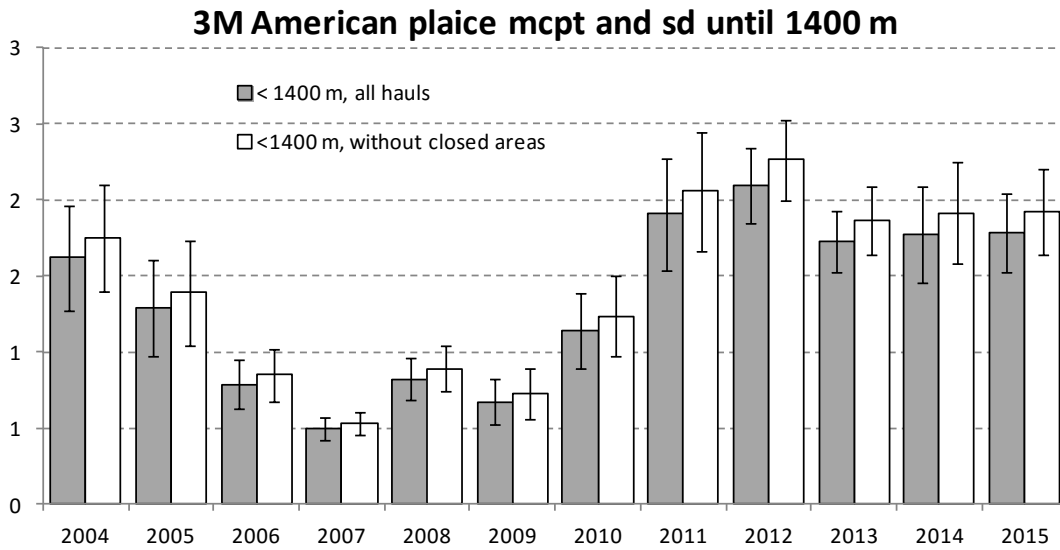
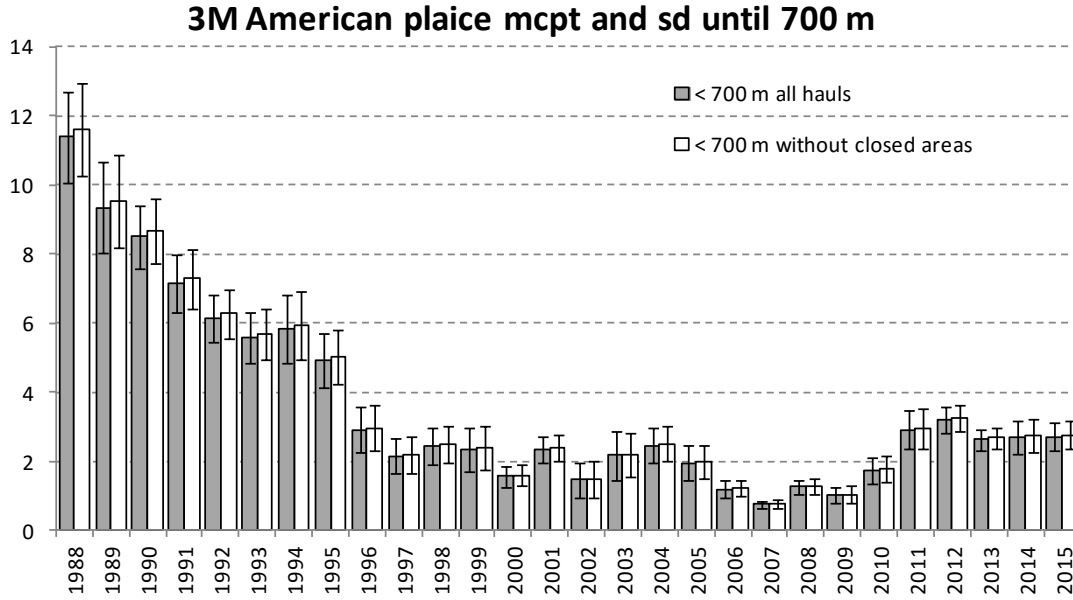


Fig. 6. 3M American plaice stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom).

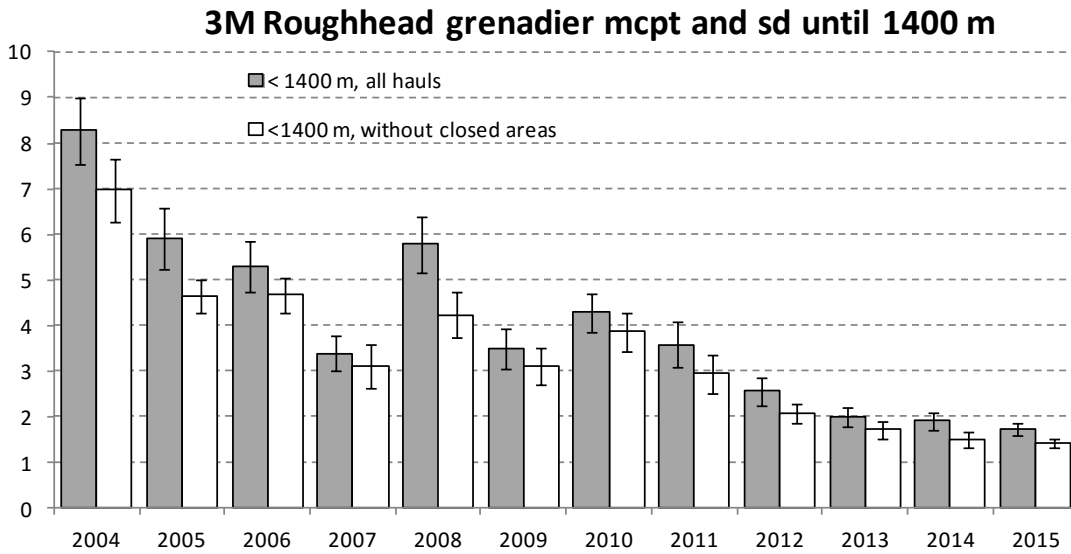
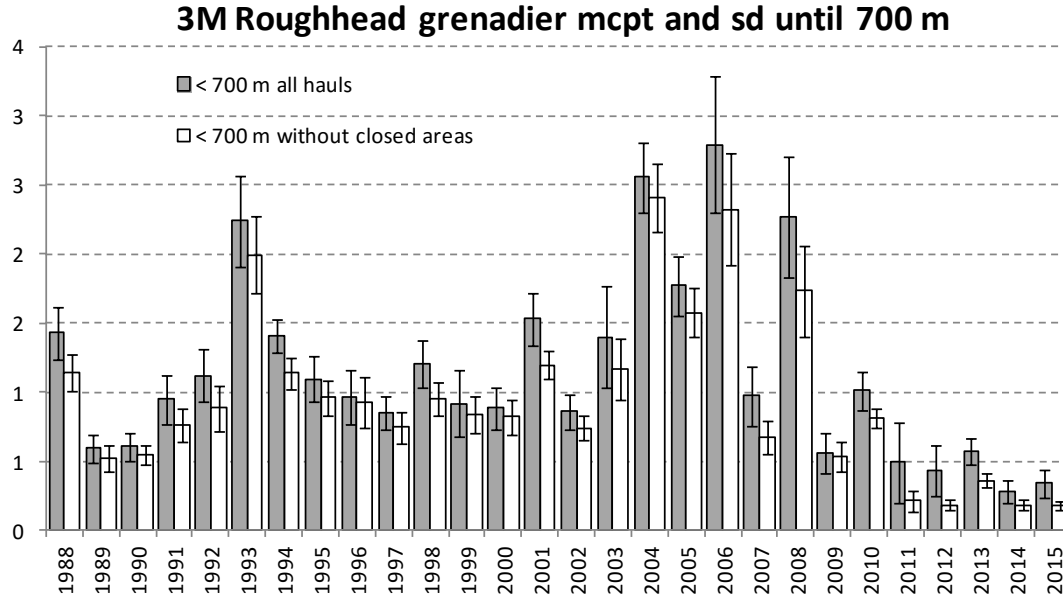


Fig. 7. 3M roughhead grenadier stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom).

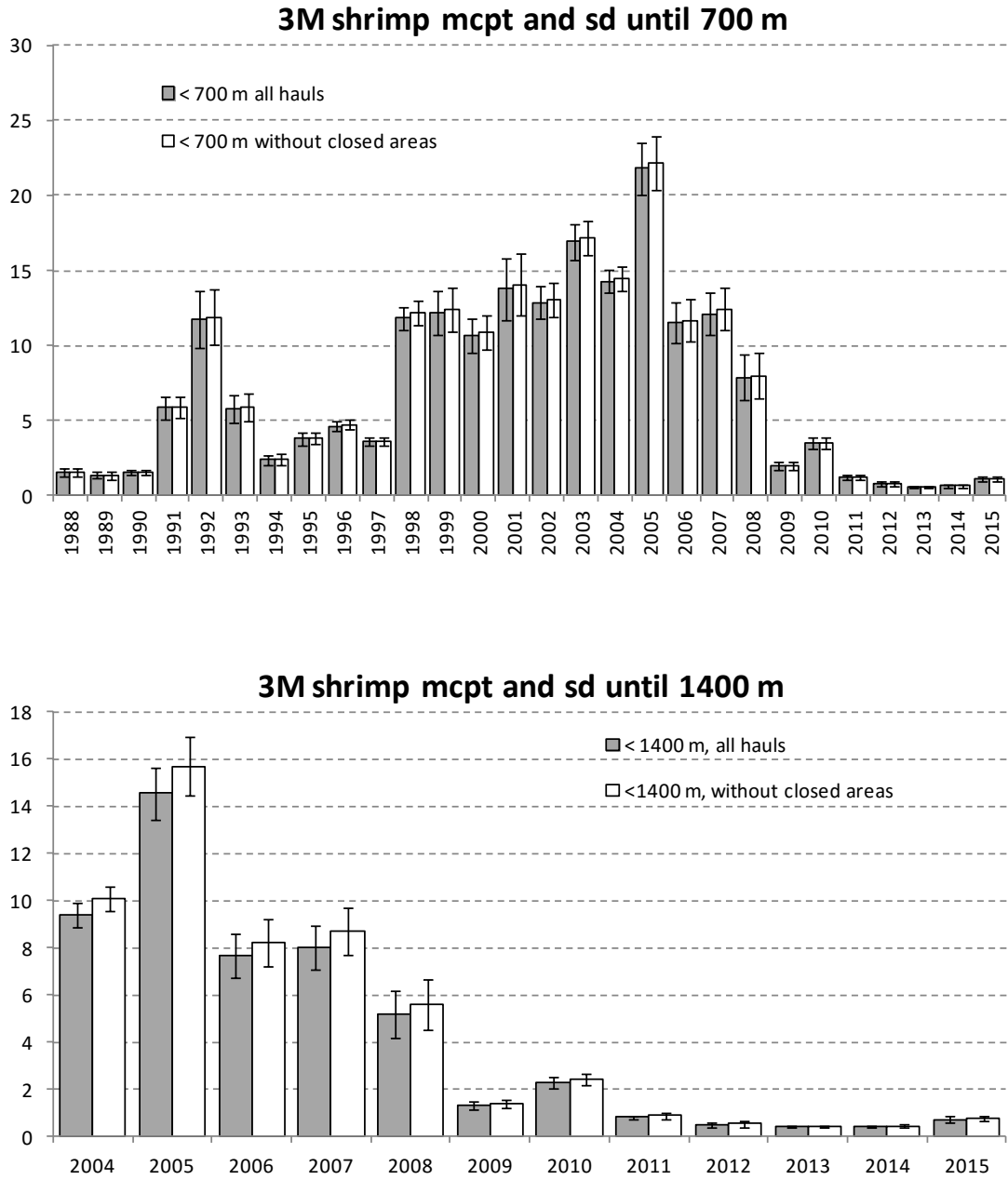


Fig. 8. 3M shrimp stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom).

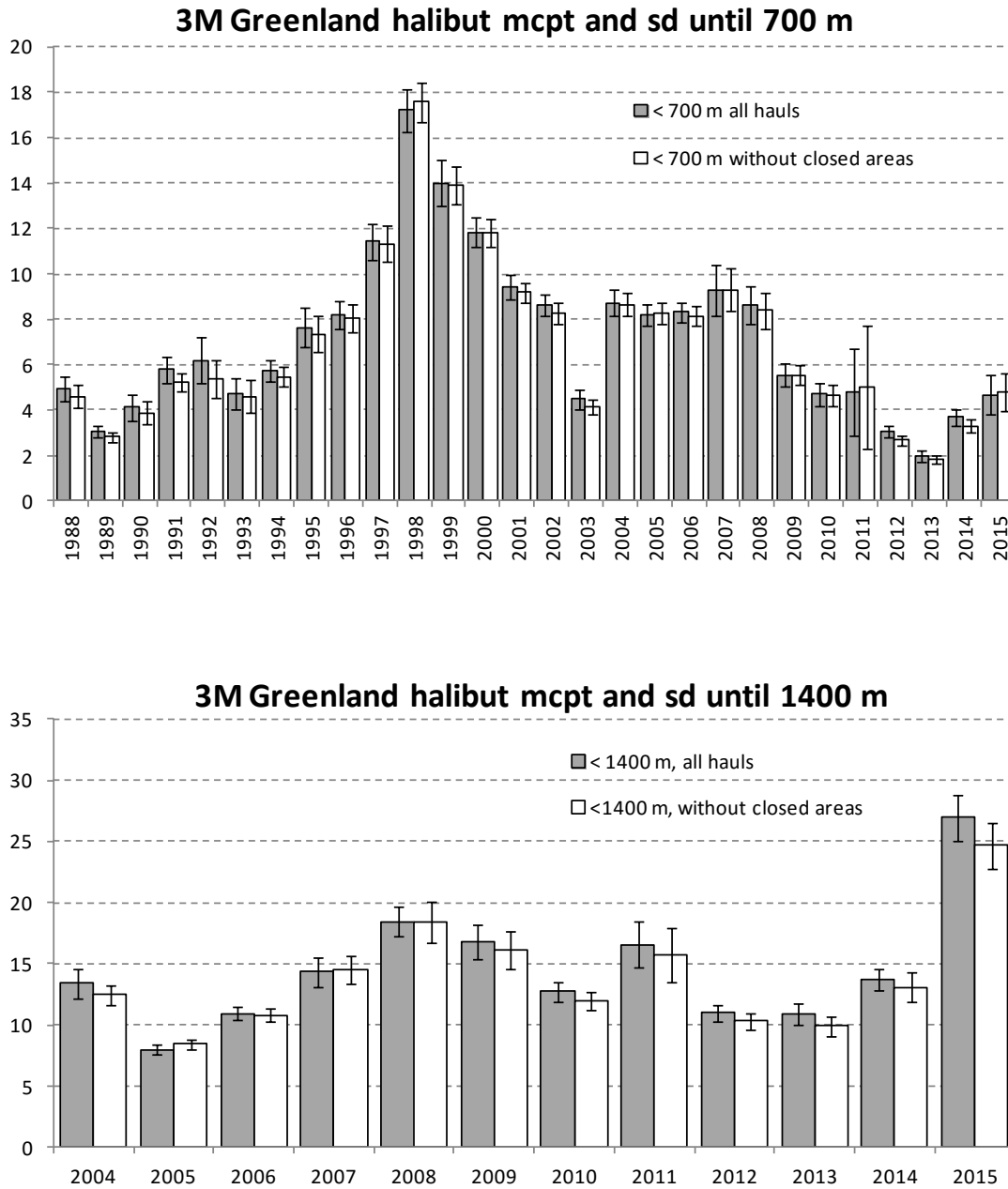


Fig. 9. 3M Greenland halibut stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom).

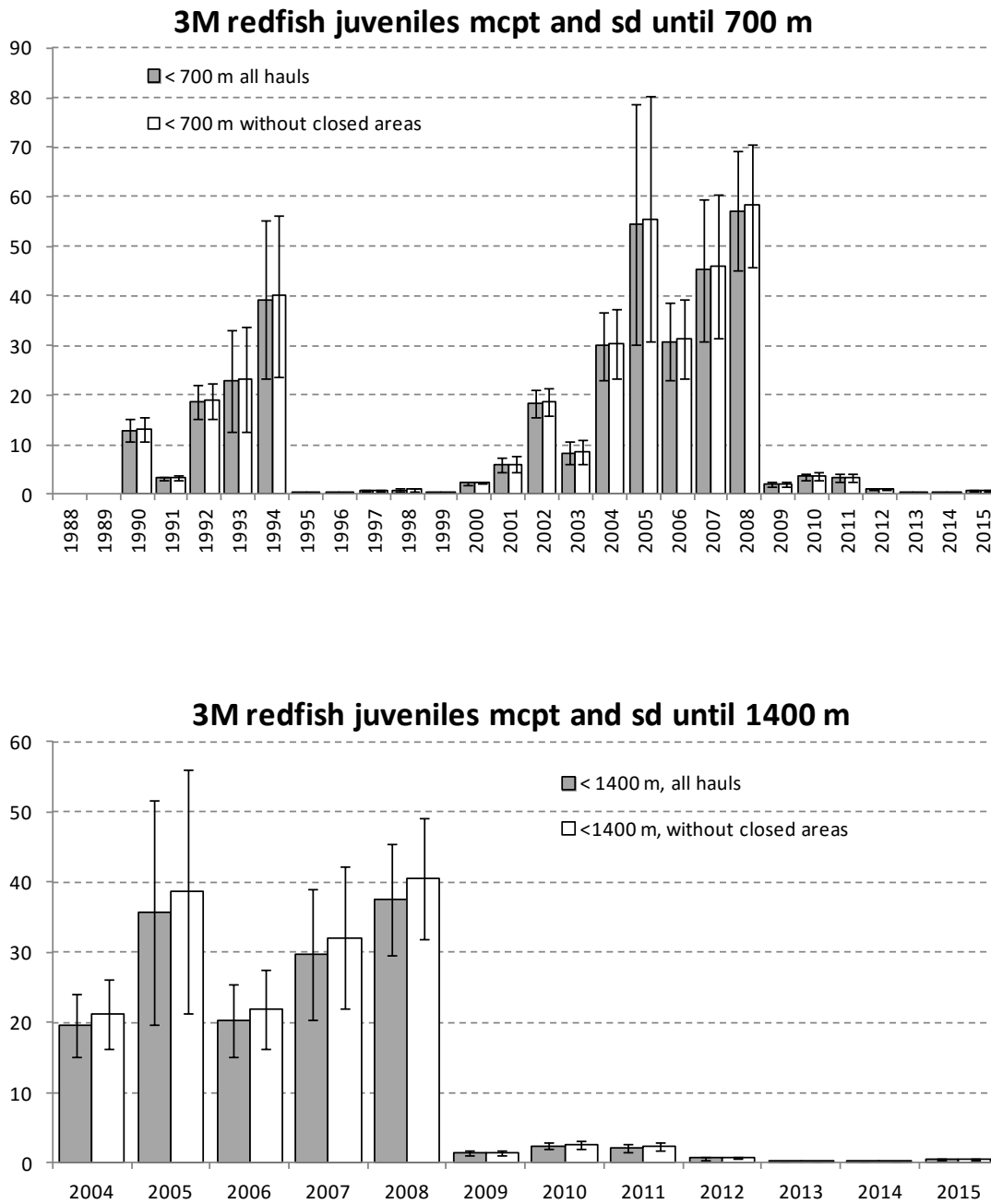


Fig. 10. 3M *Sebastes juveniles* stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom).

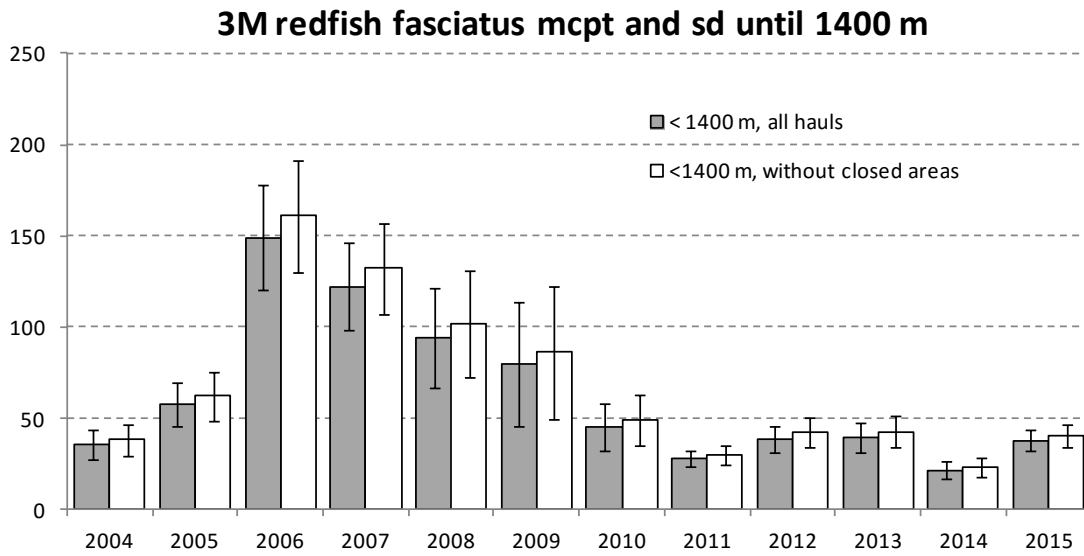
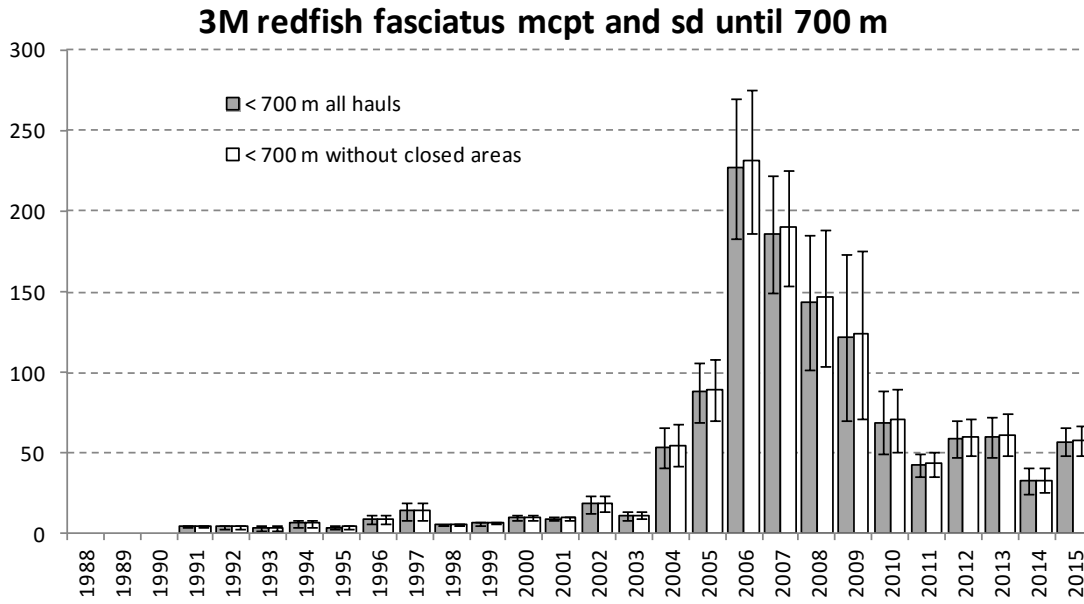


Fig. 11. 3M *Sebastes fasciatus* stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom).

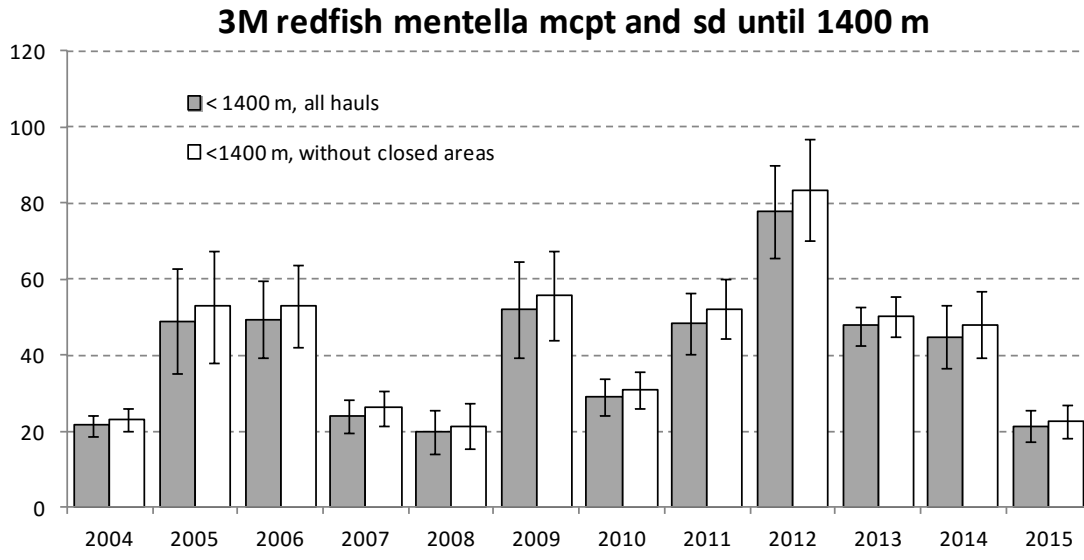
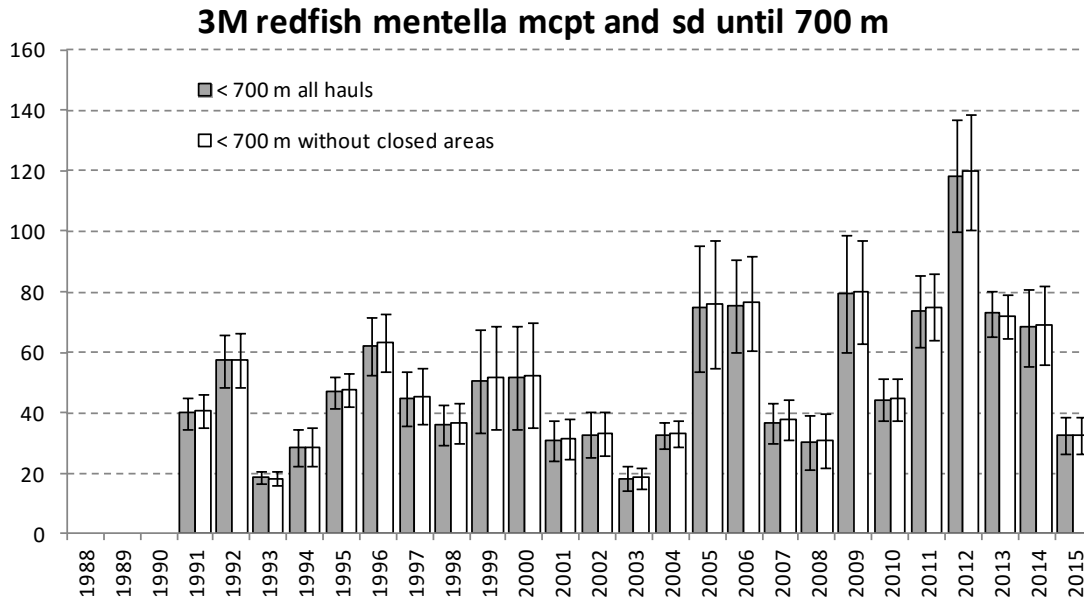


Fig. 12. 3M *Sebastes mentella* stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom)

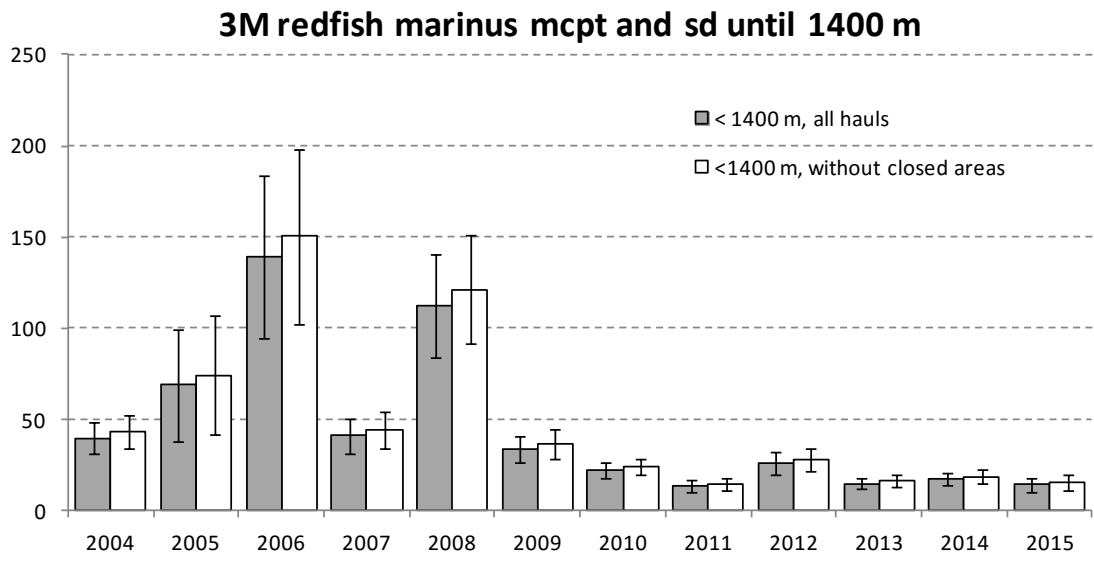
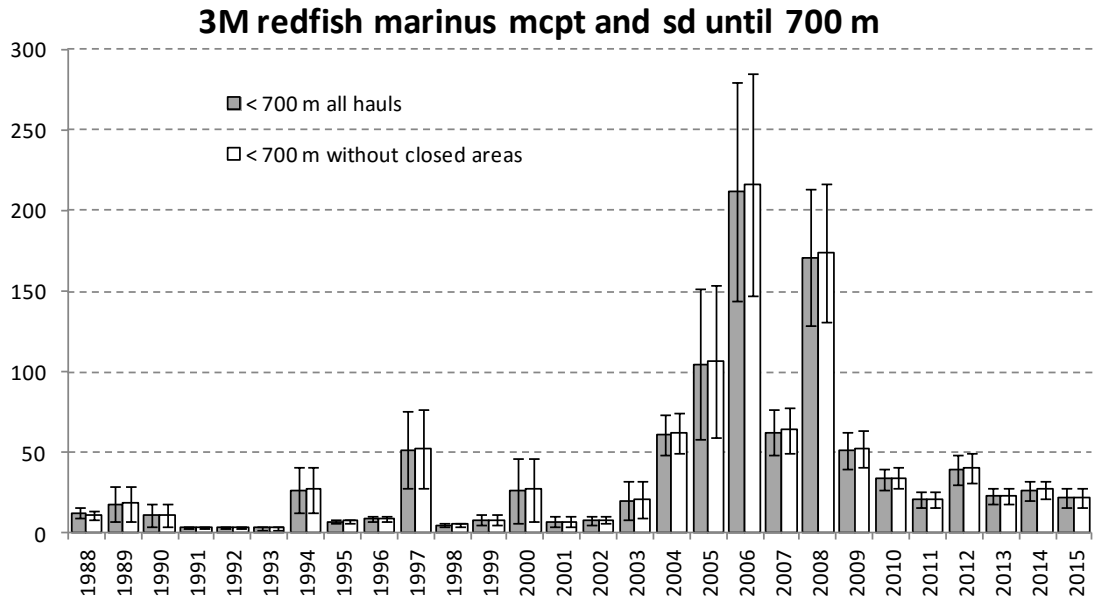


Fig. 13. 3M *Sebastes marinus* stratified mean catch per mile and SD in the EU 3M survey with all the hauls and removing the hauls in the closed areas (and the area), until 700 m (top) and until 1400 m (bottom).