

ANNEX X Report to support the request for by-catches of all species regulated with TAC and cuota, a combined de minimis up to a maximum of 1% in 2019, 2020 and 2021 of the total annual catches made by the artisanal fleet in ICES divisions VIII, IX, X and CECAF areas 34.1.1, 34.1.2, 34.2.0.

In the framework of the landing obligation in accordance with article 15 of regulation (EU) N° 1380/2013, a de minimis exemption obligation is requested for the artisanal fleet.

The request for an exemption for de minimis is based on article 15.c.i), due to difficulties to further increase selectivity in this highly mixed fishery, and on article 15.c.ii), due to disproportionate costs that the small scale fishery can hardly face and that a total application of the landing obligation without flexibilities would cause in this fishery. The artisanal fleet is particularly vulnerable for the risk of commercial catch losses an improvement in selectivity would cause and any additional cost could seriously affect to their benefits making their activity unviable.

Summary

Motive	1
Definition of the species.....	3
Definition of the management unit	¡Error! Marcador no definido.
Specifying de minimis volume.....	17
Reference	20
Annexes	¡Error! Marcador no definido.

Motive

The small-scale regional fleet is composed by small vessels with reduced autonomy and with a high diversity of fishing gears (beam trawl, gill- and trammel-nets, hooks and longline, traps and pots) target mainly coastal and estuarine species: benthic, demersal, and pelagic species (fish, shellfish, cephalopods, and crustaceans).

Gears and fishing activity may be very typical on a regional scale. Some of these species could contributes to an important part of the total annual landings of some regulated stocks, as it is the case for hake and anglerfish.

In the case of the artisanal fleet we have the following situation:

- There are a great variety of different métiers included in this term and many vessels can change from one gear to another throughout the year as they need to adapt to the circumstances (climatological, biological, market requirements, and so on), what makes it really difficult to have monitor for data and so forth to establish catch patterns and historical trends.
- The percentage of discards is usually low, but can be high seasonally when quotas are exhausted.
- Species subjected to TACs exhibit higher percentages of discards than those managed by other measures, what shows that, for some gears, species start limiting the fishery due to insufficient quota.
- Selectivity is difficult to achieve as catches are comprised by large number of species (with and without TAC) and so improvement is limited by the decrease in profitability of the métiers.

The small-scale fleet without towed gears in the SWW is a multispecies and mix small-scale fishery. By combining results from semi-structured interviews with small-scale fishers and some data from scientific studies, we can confirm that the percentage of discards for small-scale fisheries is usually low, which is consistent with general empirical observations globally. However, this can be high when quotas are exhausted.

It has been highlighted in many fora that the landing obligation would generate negative impacts on small-scale fishers' activities by investing more time on-board to handle previously discarded fishes, and putting at risk the security of fishers at sea due to full use of allowable storage on-board coupled with often adverse sea conditions.

If not adapted solutions for this fleet are found, short and long-term, losses of fishing days and yields, with high negative impacts on sustainable fisheries would be expected.

Therefore options for the small scale fisheries should show as much flexibility as possible to manage this small (and spread in many little port) quantities of discards to preserve the viability of this fleet.

Difficulties also lays on information availability from these vessels as many of them do not even use paper logbooks.

Observer's programmes lack of enough coverage to include all the artisanal métiers, so the only data source partially available are logbooks and sales notes with scarce information on discards. Other difficulties are added to the small scales fisheries as, for instance, administrative issues.

For some Member States there is also, in some cases, a matter of competence as the management of this fleet is responsibility of Regional bodies (e.g. Autonomous Governments as in the case of Spain) as they operate mainly in inland waters very near to the coast. This fact makes even more difficult to agree and establish management measures as governance needs to be agreed inside regions, inter regions and finally, coordinated by the State.

All above arguments justify this *de minimis* request, based on disproportionate costs, lack of alternatives for the fleet in relation to fishing grounds and species (i.e. *selectivity*) and finally atomised distribution along the coast deterring an achievable good level of control.

Definition of the species

The list of regulated species, demersal, pelagic and deep-sea species that can choke the activity of the small scale fleets is large. Multi-specific small scale fisheries catch a great variety of them using different métiers throughout the year. This fact lead us to require a very low amount of unwanted catches for the whole year in order to be able to discard, firstly, undersize fish and secondly quota exhausted stocks. This flexibility would allow to extend their activity along the year avoiding main choke situations. The risk of choke situations is common to other fleets (industrial) and are still unsolved. However, the capacity of the small scale fisheries to adapt, diversify or search for technological solutions is limited by the own characteristic of the fleet: small, close to shore and much linked to its local markets.

Characteristics of the artisanal fleet fishery and its activity

CASE STUDY SPAIN

1. EMPIRICAL DATA : BASQUE COUNTRY: Assessing the importance of the discards in the Basque artisanal fisheries

Introduction

The coastal artisanal fishing is practiced in the Basque Country by a significant number of small and medium-sized boats (175 units), fishing with a wide range of gears and close to the coast, making trips of short duration, usually less than 24 hours. The boats that represent the coastal artisanal fishing are attached to different fleet groups in relation to the main fishing modality, most of them are known as "minor fishing gears". The fishing gears have their own legislation and are used by the majority of the non-industrial coastal fleet, including certain gillnetting gears, longlines, hooks and pots. In the Basque Country have been identified a total of 11

artisanal fishing *métiers* on the basis of available information from surveys, databases and reports carried out by AZTI.

Given the large number of *métiers* that exist in the same geographical area, with seasonal variations and with various nets characteristics, it is necessary to evaluate the discards in the different *métiers* to improve the fisheries management. For the present study 5 *métiers* have been selected for the discards evaluation, all of them are gillnetting *métiers*. It can be assumed that the total amount of the discard of the fleet under study is reduced if we compare it with other subsectors such as purse seiners or trawls. However, due to the importance of this fleet in social, economic and cultural aspects, it is necessary to start with the discard studies to reach the sustainability of these fleets.

The gillnets are widely used by the non-industrial Basque Country coastal fleet.

Gill nets are long rectangular panels of netting set vertical on the bottom, in which fish will gill or enmesh. Gill nets have floats on the upper line (headrope) and, weights on the ground-line (footrope).

Gill nets consist in single netting (known as "gill nets") or triple netting (known as "trammel net") mounted together on the same frame ropes. These nets are used in large numbers placed in line ('fleets' of nets) which are anchored to the bottom in both ends of the gear.

This gillnetting discards study focused in the Basque Country takes into account all the different trammel net and gill net *metiers* present in the coastal artisanal fisheries. The main target species for gillnetting are the hake (*Merluccius merluccius*), striped red mullet (*Mullus surmuletus*), anglerfish (*Lophius spp.*), sole (*Solea vulgaris*) and red scorpionfish (*Scorpaena porcus*); see [Figure 3.5.1](#)

The 5 gillnetting *métiers* were selected from a total of 11 characterized *métiers*, 2 gillnets and 3 trammel nets *métiers*, for the characterization of the discards in the Basque artisanal fisheries. The selection of the *métiers* studied was carried out based on a review of the previous information on artisanal fisheries available in AZTI, reports, database, surveys and *métier* characterization works.

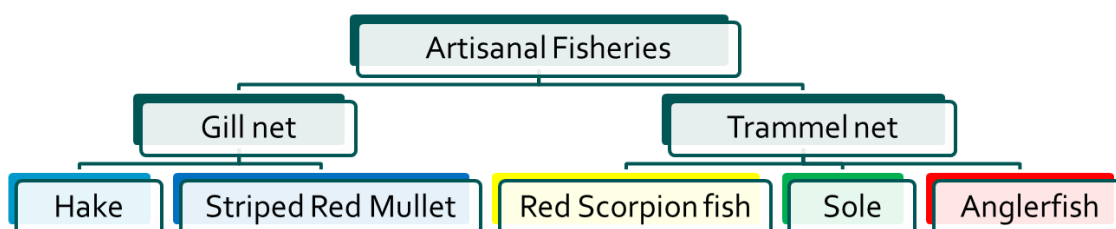


Figure 3.5.1 – The 5 selected *métiers* of the Basque artisanal fisheries to assess the discards importance

Several studies, Puente *et al.*, 2002 and Arregi *et al.*, 2004, have already studied the main characteristics and the seasonality variations that each *métier* suffers along the year. The main characteristics of each *métier* are summary in [Table 3.5.1](#) , including the bottom type, the depth (m), the soak time (h) and the fishing season.

Table 3.5.1 –Main characteristics of the *métiers* selected for the discard study

Gillnetting Metier					Fishing Season											
Fishing method	Specie	Bottom type	Depth (m)	Soak time (h)	1	2	3	4	5	6	7	8	9	10	11	12
Gillnet	Hake	Various	54-90	3-24												
Gillnet	Red Mullet	Stone	14-54	3-4												
Trammel net	Red Scorpionfish	Stone	9-36	24												
Trammel net	Sole	Mud	54-90	24-48												
Trammel net	Anglerfish	Mud	36-94	48-72												

Objective

Five artisanal *métiers* were selected to assess the importance of the discard in the gillnetting artisanal fisheries, with the aim of identifying the different discard levels within the selected *métiers*.

Material and Methods

The 5 artisanal *métiers* selected were: gill net hake (**GNH**), gill net striped red mullet (**GNSR**), trammel net red scorpion fish (**TNRS**), trammel net sole (**TNS**) and trammel net anglerfish (**TNA**).

During 2010 and 2011, 142 samples of discards were collected in the same number of fishing operations within 11 different artisanal boats. These artisanal boats were based in each one of the 9 ports with relevant presence of artisanal gillnetting in the Basque Country in order to reduce variability between different zones or possible different exploitation patterns ([Figure 3.5.2](#)); with this sampling distribution the Basque coast is covered from east to west.

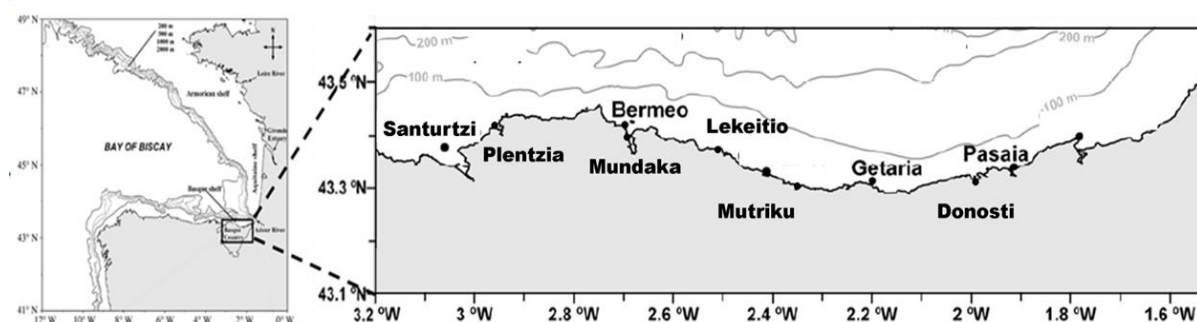


Figure 3.5.2 – Location of the sampling areas.

Sampling

The method used for discard sampling is a mixture of on-board sampling (observer) and self-sampling (crew).

3.5.3 – Information collected from each sample

The specific relative composition of the discards was analysed with the purpose of characterize the most important species caught (retained and discarded) in terms of number and weight for each *métier*.

Finally, to enable comparisons between the different métiers, fish number and weight data for each *métier* was standardized to 1,000 m net.

Composition of catches, landings and discards

Total catch composition

Table 3.5.2 –Number of samples distribution along the discard study for the selected métiers

Metier	2010 (Month)												2011 (Month)							Total samples
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	
Gillnet Hake			1	4			1			3		4	5	2	1	1	1			23
Gillnet Stripped Red Mullet				3	3	3	5	2	8	5	1	2	1	1	5	3	6	5	1	54
Trammel net Red Scorpionfish				2		3	1	1							5	1	1	2		16
Trammel net Sole			3							3	1	3	9	2	1	3	2	1	2	30
Trammel net Anglerfish			4	1	2				1	3					4	1	1	2		19
Total			8	10	5	6	7	3	9	14	2	9	15	5	16	9	11	10	3	142
	73												69							

Through the samplings carried out in this study, a total of 7,628.7 Kg catch was retained and 6,275 individuals with an overall weight of 2,399.4 were analysed for the discard study (**Table 3.5.4**). The retained catch consisted in 52 different species, while the discarded catch belonged to 102 species. Around the 98% of the total catch were chordates; regarding this fact the rest of the phylum did not reach a significant amount (

Table 3.5.5).

Due to the high presence of chordates, in terms of discarded catch this study had just focused on them. 72 different species or groups of species formed the total amount of discards.

Table 3.5.4 –Total amount of catches during the study period

	Retained	Discarded Catch	
	Weight (Kg)	Number	Weight (Kg)
2010	3,917.2	3,215	993.1
2011	3,711.5	3,060	1,406.3
Total	7,628.7	6,275	2,399.4

Table 3.5.5 – Percentage and number of species caught per the different phylum appeared in the study

	Retained		Discarded Catch		
	Weight (%)	Number Species	Number (%)	Weight (%)	Number Species
Chordata	97.3	44	98.47	99.15	72
Molusca	2.15	4	0.46	0.45	9
Echinodermata	-	-	0.41	0.2	10
Artropoda	0.56	4	0.38	0.09	6
Cnidaria	-	-	0.14	0.07	1
Algae	-	-	0.13	0.03	4

The highest retained catch was reached by the GNSRM *métier* with 3,093.7 Kg. GNH *métier* gained 1,895.9 Kg, whilst TNS and TNA *métiers* were around the 1,000 Kg. The TNS *métier* was the one with the lowest retained catches. In terms of the effectiveness of the different gears to obtain the target specie, the GNH was the *métier* with the highest percentage of the target specie from the total retained catch (67%). The rest did not reach values up to the 50%, highlighting the GNSRM and the TNS *métiers* with the lowest percentages (27 and 28% respectively).

The number of individuals discarded ranged from 338 to 2,680 members, being the TNRSF the *métier* with the lowest value and the GNSRM *métier* the one with the highest amount of discards. The same was observed taking into account the total weight of the discards, ranging from 80.6 to 982 Kg.

These differences between the values exposed could be explained by the different amount of nets used by each *métier*, which varied from 837 to 3,181 nets.

Table 3.5.6 – Mean characteristics of the total catch

	GNH	GNSRM	TNRSF	TNS	TNA
Retained catch (kg)	1,895.9	3,093.7	481	1,146.6	1,011.5
Target specie retained (%) from the total catch	67	27	41	28	49
Discarded catch (number)	777	2,680	338	1,632	752
Discarded catch (Kg)	238.7	982	80.6	780	297.9
Total number nets used	1,352	3,181	837	1,881	1,229

Mean catch composition

The retained catch showed mean values from 30.06 to 82.43 Kg/ sample. In general the trammel nets showed lower catches than the gill nets, with the exception of the TNA *métier*. The CV ranged from 64 to 122%, which corresponds to an important variability between samples. The GNH *métier* presented the highest mean values and variabilities. On the other hand, the TNRSF *métier* gained the lowest values within the lowest variabilities. The same pattern was observed in terms of the mean weight/sample for the target specie, ranging from 11.83 to 65.57 Kg/sample and coefficient of variation from 54 to 217 % (Table 3.5.7).

For the discarded catch, the different *métiers* showed values from 21 to 54 individuals/ sample and from 5 to 26 Kg/ sample. The TNRSF *métier* was the one with the lowest quantity of discards and weight, whilst the TNS *métier* was the one with the highest values. No important differences were appreciated between gillnetting types. Furthermore, in the discarded catch the same fact with the variability occurred. The CV ranged from 78 to 114% for the number of individuals and from 80 to 184% for the weight, which corresponds to an important variability between samples (Table 3.5.8).

Table 3.5.7 – Mean retained catch (Kg/sample) and the variation coefficient (%) for each *métier*

Mean retained catch/ sample	GNH	GNSRM	TNRSF	TNS	TNA
Total; Weight (Kg)	82.43	52.29	30.06	38.22	53.24
CV (%)	122	82	64	88	67
Target sp.; Weight (Kg)	65.57	16.01	11.83	21.21	26.19
CV (%)	135	91	86	217	54

Table 3.5.8 – Mean discarded catch (Number /sample and Kg/sample) and the variation coefficient (%) for each *métier*

Mean discarded catch/ sample	GNH	GNSRM	TNRSF	TNS	TNA
Number	34	50	21	54	40
CV (%)	114	78	100	109	77
Weight (Kg)	10.38	18.18	5.04	26	15.68
CV (%)	101	184	88	164	80

Catch composition variability

An analysis of the variance along the months had applied to the samples in order to find a trend or a variability pattern. In general, there was not any evident pattern in the catch composition variability for discards inside the selected *métiers*, both in number and weight. All monthly

discards showed very high CV values, enhancing the huge variability presented among samples and months.

Specific composition of the discards

In this work, 10 echinoderm, 9 mollusc, 6 crustacean, 4 seaweed, 1 cnidarian and 72 different fish species or species aggrupation were recorded as discard in the combination of all the studied fishing *métiers*. The mentioned 72 fish species or groups formed the 98.5% of all the discarded catch in number and the 99.2% in weight so the subsequent analysis will be focused on them.

The specific composition of the discard for the **GNH** *métier* in number and weight can be seen in [Table 3.5.9](#) . In this *métier* the horse mackerel (21%), pout (20%) and mackerel (14%) were the most discarded species, adding more than 50% of the by-catch in number of individuals. Considering the weight, hake (15%), pout (15%) and mackerel (13%) reached up to the 40% of the total discard in this *métier*.

Table 3.5.9 – Specific composition of the discard (number and weight) in the hake gill net *métier*

GNH total discards	Number	Weight
Species (%)	Trachurus spp. 21%	Merluccius merluccius 15%
	Trisopterus spp. 20%	Trisopterus spp. 15%
	Scomber scombrus 14%	Scomber scombrus 13%
	Scyliorhinus canicula 8%	Scyliorhinus canicula 13%
	Merluccius merluccius 7%	Trachurus spp. 12%
	Boops boops 5%	Boops boops 6%
	Sardina pilchardus 4%	Scomber japonicus 6%
	Scomber japonicus 3%	Mola mola 2%
	Mullus surmuletus 3%	Chelon labrosus 2%
	Aspitrigla cuculus 3%	Dicentrarchus labrax 2%
	Scorpaena notata 1%	Mullus surmuletus 2%
	Aspitrigla obscura 1%	Balistes carolinensis 1%
	Umbrina canariensis 1%	
	Others 8%	Others 10%

In the **GNSRM** *métier* ([Table 3.5.9](#)), the bogue (54%) and the horse mackerel (10%) were the most discarded species according to the number. Again, the bogue (40%), followed by mackerel (32%) were the species in weight that highlight more. This *métier* was the one that discarded the lowest number of species.

Table 3.5.10– Specific composition of the discard (in number and weight) in the striped red mullet gill net *métier*

GNSRM total discards	Number	Weight
Species (%)	Boops boops 54%	Boops boops 40%
	Trachurus spp. 10%	Scomber scombrus 32%
	Scomber japonicus 8%	Scomber japonicus 10%
	Trisopterus spp. 6%	Trachurus spp. 4%
	Sardina pilchardus 6%	Mola mola 2%
	Scomber scombrus 4%	Trisopterus spp. 2%
	Mullus surmuletus 3%	Others 10%
	Serranus cabrilla 2%	
	Others 8%	

The *métier* comprising the widest range of species discarded was the **TNRSF** (Table 3.5.11) with more than 16 fish species. In number, the scorpionfishes (14%+11%), Longfin gurnard (13%) and hogfishes (12%) were the predominant adding a value up to 50% of the total discarded fishes. If we consider the weight, hogfishes (16%), thornback ray (13%) and scoriofishes (8%+7%) were the most important discarded species with a percentage close to 45%.

Mackerel (32%) and sardine (24%) were the most discarded species in the **TNS *métier*** (Table 3.5.12) according to the number, covering more than 50% of the total discarded fishes. In relation to the discarded weight, the same two species constituted the 68% of the discard, corresponding the 57% to the mackerel and the 11% to the sardine.

In the **TNA *métier***, the most discarded species according to the number of individuals were the bib (12%), longfin gurnard (12%) and small-spotted catshark (11%). These three species added the 35% of the total discarded fishes. The most discarded species in relation to weight were moonfish (16%) anglerfish (10%) and hake (9%), comprising the 35% of the total discarded weight (

TNS total discards	Number	Weight
Species (%)	Scomber scombrus 32%	Scomber scombrus 57%
	Sardina pilchardus 24%	Sardina pilchardus 11%
	Trisopterus spp. 10%	Trisopterus spp. 4%
	Aspitrigla obscura 6%	Scyliorhinus canicula 4%
	Scyliorhinus canicula 4%	Merluccius merluccius 3%
	Merluccius merluccius 4%	Balistes carolinensis 3%
	Solea solea 2%	Chelon labrosus 2%
	Umbrina canariensis 2%	Aspitrigla obscura 1%
	Balistes carolinensis 1%	Umbrina canariensis 1%
	Boops boops 1%	Raja clavata 1%
	Aspitrigla cuculus 1%	Solea solea 1%
	Trigla lucerna 1%	Lophius piscatorius 1%
	Raja clavata 1%	Others 10%
	Others 10%	

Table 3.5.13).

Table 3.5.11 – Specific composition of the discard (number and weight) in the red scorpionfish trammel net *métier*

TNRSF total discards	Number	Weight
Species (%)	Scorpaena spp. 14%	Labrus spp. 16%
	Aspitrigla obscura 13%	Raja clavata 13%
	Labrus spp. 12%	Scorpaena spp. 8%
	Scorpaena notata 11%	Scorpaena notata 7%
	Trisopterus spp. 10%	Diplodus spp. 6%
	Serranus cabrilla 4%	Scyliorhinus canicula 5%
	Diplodus spp. 4%	Chelon labrosus 5%
	Trachinus draco 3%	Aspitrigla obscura 5%
	Aspitrigla cuculus 3%	Trisopterus spp. 4%
	Scyliorhinus canicula 3%	Merluccius merluccius 3%
	Mullus surmuletus 2%	Sarpa salpa 3%
	Scomber scombrus 2%	Umbrina canariensis 2%
	Umbrina canariensis 1%	Belone belone 2%
	Symphodus bailloni 1%	Aspitrigla cuculus 2%
	Callionymus lyra 1%	Mullus surmuletus 2%
	Raja clavata 1%	Leucoraja spp 2%
	Others 13%	Others 15%

Table 3.5.12 – Specific composition of the discard (number and weight) in the sole trammel net *métier*

TNS total discards	Number	Weight
Species (%)	Scomber scombrus 32%	Scomber scombrus 57%
	Sardina pilchardus 24%	Sardina pilchardus 11%
	Trisopterus spp. 10%	Trisopterus spp. 4%
	Aspitrigla obscura 6%	Scyliorhinus canicula 4%
	Scyliorhinus canicula 4%	Merluccius merluccius 3%
	Merluccius merluccius 4%	Balistes carolinensis 3%
	Solea solea 2%	Chelon labrosus 2%
	Umbrina canariensis 2%	Aspitrigla obscura 1%
	Balistes carolinensis 1%	Umbrina canariensis 1%
	Boops boops 1%	Raja clavata 1%
	Aspitrigla cuculus 1%	Solea solea 1%
	Trigla lucerna 1%	Lophius piscatorius 1%
	Raja clavata 1%	
	Others 10%	Others 10%

Table 3.5.13 – Specific composition of the discard (number and weight) in the anglerfish trammel net *métier*

TNA total discards	Number	Weight
Species (%)	Trisopterus spp. 12%	Mola mola 16%
	Aspitrigla obscura 12%	Lophius piscatorius 10%
	Scyliorhinus canicula 11%	Merluccius merluccius 9%
	Mola mola 11%	Raja clavata 8%
	Aspitrigla cuculus 10%	Scyliorhinus canicula 8%
	Merluccius merluccius 6%	Mustelus mustelus 5%
	Raja clavata 3%	Trisopterus spp. 4%
	Lophius piscatorius 3%	Mustelus asterias 4%
	Solea solea 3%	Lophius budegassa 3%
	Scomber scombrus 3%	Aspitrigla obscura 3%
	Trachinus draco 2%	Raja montagui 3%
	Scorpaena notata 2%	Torpedo marmorata 3%
	Others 23%	Others 24%

Discard Rates

The D/T (discarded weight/total catch weight) rate and the D/Target (discarded weight/total target specie catch weight) rate were calculated separately for each *métier* (Table 3.5.14).

If we consider the total catch (D/T), the TNS *métier* showed the higher discard rate (37%) followed by the GNSRM (28%) and the TNA *métiers* (22%). The other two *métiers* showed discard rates lower than 15%.

The discard ratio in relation with the target specie (D/Target) catch weight showed that the GNSRM and TNS with 68% and 64% respectively, exchanging their positions in the ranking. Below these two *métiers*, with a substantial lower discard ratio we found the TNA (36%), TNRSF (33%) and GNH (17%) *métiers*.

Table 3.5.14 –Discard ratio in weight considering total catch and target specie catch for the studied *metiers*

	GNH	GNSRM	TNRSF	TNS	TNA
D/T (%)	13	28	14	37	22
D/Target sp. (%)	17	68	33	64	36

For comparative purposes, discards as well as retained catches (total and target specie) were extrapolated to 1,000m net/ sample ([Figure 3.5.5](#)). The GNH *métier* was the one with highest total and target specie catches, with a low discarded mean weight. On the contrary, the TNS *métier* had the lowest total and target specie catches, showing a discard value higher than the target specie catch. The GNSRM *métier* with the second highest value for the total catch showed the highest value for discard weight. The TNRSF *métier* with the lowest value for discards showed medium values for target specie and discards.

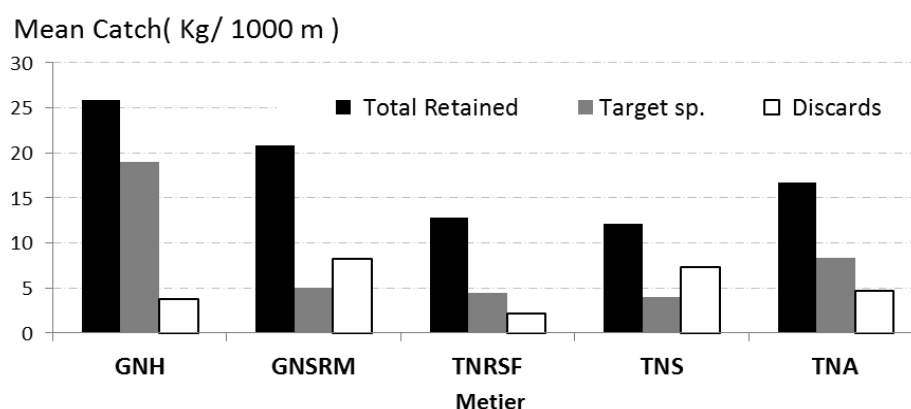


Figure 3.5.5 –Mean catch value extrapolated to 1000 meter of net for all the samples, considering the total retained catch, target specie catch and discarded weight

The mean number of individuals discarded by fishing *métier* and its respective CV can be seen in [Table 3.5.15](#). According to extrapolations, the GNSRM and the TNS *métiers*, both with 18 individuals, showed the highest value followed by GNH and TNA with 12 individuals each and finally the TNRSF *métier* with 9 individuals. The values of C.V were very high in all *métiers*, ranging from 99% in TNRSF to 62% in GNSRM *métier*. These revealed the high dispersion of the data and indicated that sampling effort should be increased.

Table 3.5.15 –Mean number and CV extrapolated to 1000 meter of net for all the samples

	GNH	GNSRM	TNRSF	TNS	TNA
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Individuals discarded in 1,000 m net	12 (CV 78 %)	18 (CV 62 %)	9 (CV 99%)	18 (CV 98 %)	12 (CV 71 %)
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Main conclusions from this case study

- In order to assess the importance of the discard in the Basque Country artisanal fisheries, 5 *métiers* were selected: gill net hake, gill net striped red mullet, trammel net red scorpion fish, trammel net sole and trammel net anglerfish.
- 142 samples of discards were collected in the same number of fishing operations within 11 different artisanal boats
- Through the samplings carried out in this study, a total of 7,628.7 Kg catch was retained and 6,275 individuals with an overall weight of 2,399.4 were analysed for the discard study.
- The discards were composed by more than 70 fish species in this study, comprising the 98.5% of all the discarded catch in number and the 99.2% in weight.
- The main results obtained in this study are summarized in the following table:

	The LOWEST amount	The HIGHEST amount
Total Retained	TNS	GNSRM
% Target specie from the total retained	the other <i>métiers</i> similar values	GNH
Total Discarded	TNRSF	GNSRM
	in number and weight	
Mean Discards/ sample	TNRSF	TNS
	in number and weight	
CV (%)	Very high values in number and weight in all <i>métiers</i>	

- Gill nets presented the highest amount of the total retained catch and the highest percentage valued of the target specie from the total retained catch.
- All monthly discards showed very high CV (%) values in number and weight, suggesting an important variability between samples. There was not any evident pattern in the catch composition variability for discards inside the selected *métiers*.
- The main discarded species in number and weight were bogue, mackerel, horse mackerel and bib for gillnets.

- For trammel nets, mackerel, sardine, bib and gurnards were the most important in number, while moonfish, skates, mackerel and bib were the ones in weight.
- The trammel net sole *métier* shows the higher discard ratio in weight (37%) followed by the gill net striped red mullet (28%).
- Considering the target specie caught in weight, gill net striped red mullet and trammel net sole *métiers* showed the highest values, 68% and 64% respectively.
- The gill net hake *métier* was the one with the highest total and target specie catches with a low discarded mean weight and the trammel net sole *métier* has the lower total catches and the lower catches of target specie, showing a value for discard higher than target specie catch.
- The gill net striped red mullet and the trammel net sole *métiers*, both with 18 individuals show the higher mean individual discarded number extrapolated to 1,000 m of net.
- After the extrapolation to 1,00meter net the mean number of discards showed very high values of C.V in all *métiers*, ranging from 99% in trammel net red scorpion fish *métier* to 62% in gillnet striped red mullet. This suggests that the sampling effort should be increased in order to avoid this variability.
- Main reasons for the discard are low commercial value, decomposition of the fish and undersized fish or quota finished.

2. **DATA COMING FROM FISHERMEN STRUCTURED INTERVIEWS**

OPEGUI, a producers organization of artisanal fleet in Gipuzkoa, Basque Country, in the framework of the PLEAMAR (Fundacion Biodiversidad funding project) are developing together with the scientific institute AZTI, an ongoing Project called “ the Impact of the landing obligation in the artisanal fleets and marine ecosystem from Cantabrian sea. That finishes at the end of 2018 in the areas of Asturias, Cantabria and Basque Country

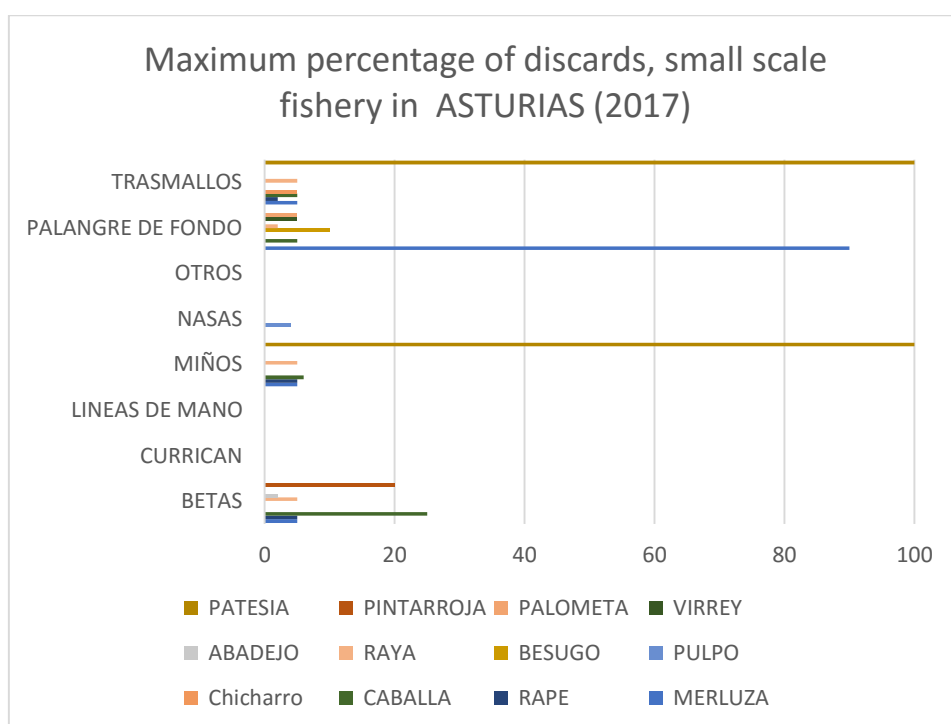
In the context of the landing obligation, the objective is characterize the dynamic, catch composition(including seasonality) from Iberian waters small scale fisheries using traditional gears in order to make specific proposals to solve the risk of choke in this selected fleets. The main objectives of this project are the following:

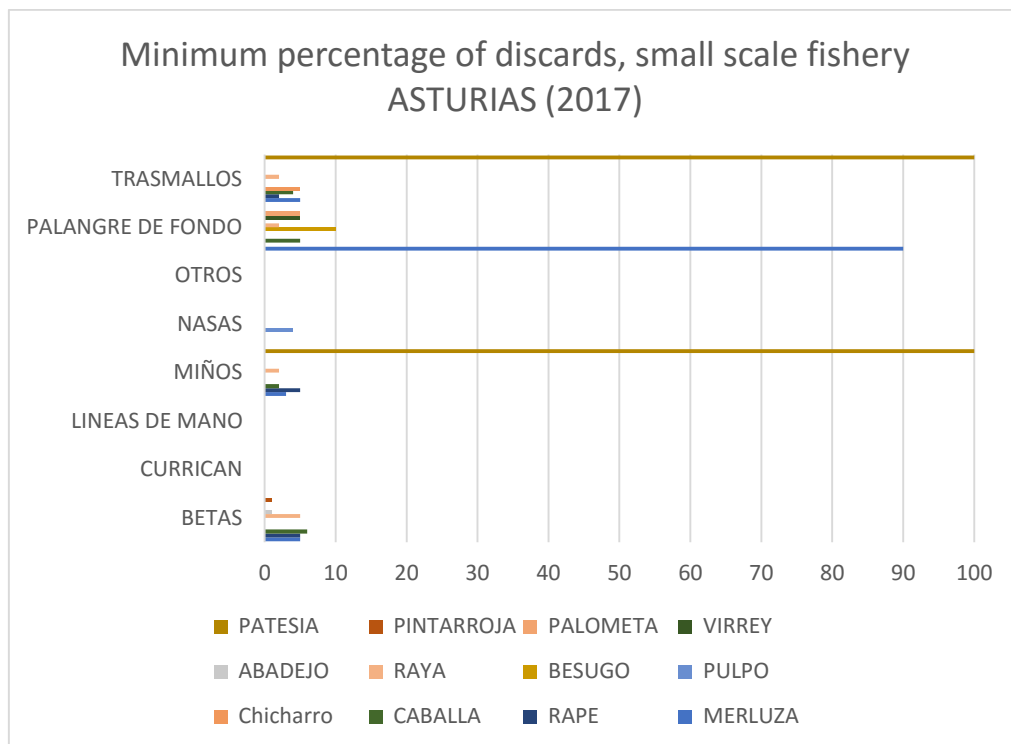
1. Characterization of Fishing activity.
2. Choke situations identification and most limiting stocks for this fleet.

3. Selectivity pattern analysis for the species before identifying them.
4. Solución proposal.
5. Comparison with the rest of the Fishing sector.
6. Dissemination of work done.

The following work is being done to identify percentage of catches and discards in Asturias and Cantabria regions for the moment with analysis like the following graphics obtaining the maximum and minimum discard percentages declared in the interviews.

The estimated maximum discard rate in Asturias were calculated as being between around 5% and in Cantabria between 4 and 5 %.





By end of 2018, the results of the study will deliver more information and data about discard levels, limiting species y preliminary selectivity (if any) improvements as well as tactics to provide operative solutions that sustain the adaptation of these fleets to the landing obligation.

Specifying de minimis volume

Discard volume from Spanish fleet

Up to now, results obtained from samplings in the Basque Country and from structured interviews in Asturias and Cantabria, the percentage of discard is around 5% on average. But 1% is the percentage we will use to calculate the de minimis exemption to obtain the amount of discard allowed for each stock for this fleet. Over this rate, the 25% safeguard. Discard EU data for this fleet is not possible to be obtain as it is not disaggregated in metiers other than the traditional ones in the european context. But , again, it is worth to comment that the physical characteristics of these fleets and their dynamics do not follow the industrial fleets that traditionally are content in the description of the European metiers. In the next three years, the SWW group is committed to develop more studies to complete and improve this information.

The percentage requested for the de mimimis can be modified in light of new information arisen that can prove updated catch patterns as the ones showed in this document and if the inclusion of information from other fleets from France and Portugal mainly changes the global picture.

Taking into account the ACDR data from 2016 sent by Spain by census, as there do not exist a closed census called *minor gears* including all our artisanal gears, a 1% of all catches from TAC and quota species made from this fleet is calculated to obtain the maximum de minimis applicable to this fleet segment.

The methodology used to calculate the de minimis volume differs in this case as the data available is very poor, scarce and atomised by regions so, this information is used as a first reference level, proxy or base line to calculate an estimation. The objective is to continue working on this issue in the future and improve the data, identify the specific problems and propose ad hoc solutions in the next three years. Spain will also push the needed changes in the data registration in paper logbooks in order to have as much information registered as possible.

SPANISH LANDINGS ACDR 2016 BY STOCK FROM MINOR GEARS CENSUS

STOCK	TOTAL CATCHES (TON)	1% de minimis (TON)	% OF EACH STOCK de minimis COMPOSITION	25% safeguard (TON)
ALF 3X14	10,309	0,103	0,10	2,59
ANF 8ABDE	5,023	0,05	0,05	1,26
ANF8C3411	450,643	4,506	4,51	133,00
BSF 8910	0,051	0,001	0,00	0,01
GFB 89	19,633	0,196	0,20	4,95
HKE 8ABDE	40,793	0,408	0,41	10,36
HKE 8C3411	1.326,21	13,262	13,28	507,70
JAX 8C	681,114	6,811	6,82	216,74
JAX 09	638,782	6,388	6,40	200,56
LEZ 8ABDE	0,014	0	0,00	0,00
LEZ 8C3411	3,673	0,037	0,04	0,92
LIN 6X14	0,484	0,005	0,01	0,12
MAC 8C3411	6.444,82	64,448	64,55	5771,09
NEP 93411	0,001	0	0,00	0,00
PLE 8C3411	2,924	0,029	0,03	0,73
POL 8C	88,359	0,884	0,89	22,87
POL 8ABDE	0,136	0,001	0,00	0,03
POL 93411	68,704	0,687	0,69	17,65
SBR 9	23,933	0,239	0,24	6,04
SBR 678	14,213	0,142	0,14	3,57
SOL 8AB	0,142	0,001	0,00	0,04
SOO 8CDE34	150,523	1,505	1,51	39,90
WHB 8C3411	14,348	0,143	0,14	3,61
WHG 8	0,004	0	0,00	0,00
TOTAL	9.984,84	99,848	100,00	

Safeguards

This de minimis would respond partly in how to implement landing obligation in specific fisheries in no described fisheries of small size, without impacting very negatively in their profitability and therefore social context. It has to be taken into account, the added difficulty, in the fully implementing 2019 landing obligation scenario, in relation to the control of the implementation of the new regulation. Also this de minimis has its caveats and risks. It is true that the combination of several species can represent a high volume of possible discards. Nevertheless, it will never be more than 5% of the total catches of the fleet concerned, this means 100 tons aprox (99,848). from all TAC and quota species caught by this fleet.

As explained above, volume and composition of catches can be unpredictable and vary from one year to another. It is also important to emphasize that, because of the highly multispecies nature of the fisheries, it is highly unlikely that only one species would be discarded. That is the point of a combined de minimis: to give some flexibility needed for fisherman to face the variability of by-catch stocks abundance.

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

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

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

Those safeguards should be revised if necessary and according to discard profile knowledge to be acquired over the next three years.

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