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Results of the Spanish survey in NAFO Divisions 3NO

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Greenland halibut (*Reinhardtius hippoglossoides*), American plaice (*Hippoglossoides platessoides*), Atlantic cod (*Gadus morhua*), yellowtail flounder (*Limanda ferruginea*), redfish (*Sebastes spp.*), witch flounder (*Glyptocephalus cynoglossus*), roughhead grenadier (*Macrourus berglax*), thorny skate (*Amblyraja radiata*), white hake (*Urophycis tenuis*), squid (*Illex illecebrosus*) and capelin (*Mallotus villosus*) indices from the bottom trawl survey that EU-Spain carries out in Spring since 1995 in Divisions 3NO of the NAFO Regulatory Area are presented. In 2020, the survey was not carried out due to the COVID pandemic situation. The presented indices are biomass by stratum, total length distribution and *a* and *b* parameters for the length-weight relationship; age distribution is also presented for Greenland halibut and Atlantic cod.

Methods

Since 1995, Spain carries out a Spring-Summer (May/June) survey in the Divisions 3NO of the NAFO Regulatory Area. From 1995 to 2000, the survey was conducted on board the C/V *Playa de Menduíña* with a net trawl type *Pedreira*. In 2001 this vessel was replaced by the R/V *Vizconde de Eza*, using a trawl net type *Campelen*. The EU-Spain multi specific bottom trawl survey in NAFO Regulatory Area Divs. 3NO covers a depth range of 43-1 438 m according to a stratified random design. The current gear is a *Campelen* otter trawl with 20 mm mesh size in the cod-end. For more details about the technical specifications of the survey, see Walsh *et al.* (2001) and González Troncoso *et al.* (2004).

In each haul, all the individuals caught were sorted by species and weighted. Random samples of the catch of each species were length measured (total length) to the nearest lower cm, except for roughhead grenadier, for which pre-anal length in 0.5 cm intervals to the inferior 0.5 cm is taken, and squid, for which length measures are of the total body in 0.5 cm intervals to the inferior 0.5 cm. For editorial reasons, in this document the length distributions are presented aggregated into 2 cm intervals (beginning with the even number) and raised to the catch of each species; except in the cases of roughhead grenadier and squid, aggregated into 1 cm intervals. To know more results details about the survey, please contact the authors.

The number of valid tows, the depth strata covered and the dates of the survey by year are presented in Table 1. Note that in 2023, due to several reasons (i.e. technical problems, bad weather conditions and health issues of a sailor), the effective days of survey were around 6 days less than planned. As a consequence, 106 out of 115 hauls were carried out. Regardless of these problems, the minimum number of hauls by strata was covered, thus allowing to consider the survey as valid.

Table 2 shows the swept area and number of hauls by stratum of the last five years of survey. Note that the survey was not carried out in 2020 due to the COVID pandemic situation. Figure 1 contains the map with the location of the hauls of the survey conducted in 2023. Table 3 presents by year the total survey mean catch per tow (total catches/number of hauls) as well as the main species and groups catch composition in percentage. Figure 2 shows the percentage by year of each species presented in the catches and the total mean catch per tow. To obtain the index, the total catch of the survey was divided among the total number of hauls, by year.

Table 4 contains the length-weight relationship parameters *a* and *b* of the last five years of survey for all the species for which results are presented in this document.

For each of the objective species, the biomass estimated by the swept area method by stratum and the total length distribution by year is presented. Besides that, the total age distribution by year is presented for Greenland halibut and Atlantic cod. For these species, the otoliths collected during the survey were read in the Instituto Español de Oceanografía (IEO) in Vigo to generate the ALKs to transform the length distribution into age distribution.

Most of the tables present the last five years of survey, while most of the figures include the whole series of data. Information from previous years is available in Garrido et al. (2023).

Results

Greenland halibut

Figure 3 presents the map with the distribution of the catches by haul of Greenland halibut in the EU-Spain Divs. 3NO survey catches for the last four years.

Biomass and abundance

Table 5 presents the biomass estimated by the swept area method by stratum and year for Greenland halibut, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year for the last five years of survey. Figure 4 shows the total biomass and abundance indices by year.

Since 2017, the indices have remained more or less stable with annual fluctuations around values of 7 500 tons. The last three years (2021-2023), a slight increasing trend is observed.

Length and Age Distribution

In Table 6, the abundance by length and total by year for the last five years of survey is presented with the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species. Figure 5 (a) shows the total length distribution by year for the whole series, where the evolution along the years can be followed. Table 7 presents the total Age-Length Key (ALK) to transform the length distribution in age distribution. In Table 8 and Figure 5 (b), the abundance by age and total by year are presented.

In recent years, it is not easy to track the different cohorts of this species both in the length and in the age plots.

American plaice

Figure 6 presents the maps with the distribution of the catches by haul of American plaice during the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 9 shows the biomass per swept area by stratum for American plaice for the last five years of survey, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year. Figure 7 presents the estimated total biomass and abundance indices by year.

The American plaice biomass and abundance indices present more or less stable trends until 2015, when a sharped decline was observed. Biomass and abundance remain at low level since then, being 2022 the lowest biomass value of the entire series and 2019 the lowest abundance value. In 2023, both indices increase but remain at low levels.

Length and Age Distribution

Table 10 shows the abundance by length and total by year for the last five years of survey, the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species. Figure 8 shows the total length distribution by year.

According to the figure, three cohorts can be followed at different lengths before 2015. Since then, no strong cohorts have been observed.

Atlantic cod

Figure 9 presents the maps with the distribution of the hauls catches of Atlantic cod during the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 11 shows the biomass per swept area by stratum for Atlantic cod, as well as total biomass, stratified mean catch per tow and abundance and their variance per year of the last five years of survey. Figure 10 presents the estimated total biomass and abundance indices by year for the whole period.

Biomass of cod presented poor values between 1997 and 2008 with some fluctuations and a great deviation due to a few hauls in which the catches of that species were very high (e.g., 2001). Since then, an increasing trend in the biomass of this species could be seen, also with many fluctuations, reaching the maximum of the series in 2014. Since then, biomass has decreased reaching in 2022 the minimum of the series, at the level of 1997. Abundance follows a similar trend, despite the maximum of the series is placed in 2009 and 2011, instead of 2014. Both indices since 2018 remain at very low levels.

Length and Age Distribution

In Table 12, the abundance by length and total by year is presented with the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species for the last five

years of survey. Figure 11 (a) shows the length distribution by year for the whole series, where the evolution along the years can be followed. Table 13 presents the ALKs used to transform length distribution in age distribution. In Table 14 and Figure 11 (b), the abundance by age and total by year are presented.

One cohort can be tracked from 2007 to 2011. Since 2012, the low abundances of the cohorts have not allowed to follow them.

Yellowtail flounder

Figure 12 presents the maps with the distribution of the hauls catches of yellowtail flounder in the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 15 shows the biomass per swept area by stratum for yellowtail flounder for the last five years of survey, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year. Figure 13 presents the total biomass and abundance indices by year.

Yellowtail flounder indices increased substantially from 1995 to 1999, and they remained almost constant at high levels until 2013, declining since then. This decline hit the minimum in 2022, with values similar to those at the beginning of the series. In 2023 a small increase in the indices is observed.

Length Distribution

Table 16 presents the abundance of yellowtail flounder by length and total by year, the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species for the last five years of survey. Figure 14 shows the length distribution by year.

No good recruitment can be observed in the series. Every year, a mode appears around 30 cm but the presence of juveniles is very low. It is observed that the abundance has decreased since 2019.

Redfish

Figure 15 presents the maps with the distribution of the hauls catches of redfish in the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 17 shows the biomass per swept area by stratum for redfish, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year of the last five years of survey. Figure 16 presents the total biomass and abundance indices by year.

Redfish indices oscillate greatly over time, probably because the gear does not adequately sample aggregating pelagic species. A great increase could be observed between 2008 and 2009, when the maximum values were reached both in the biomass and abundance indices. Since then, the indices followed an oscillating downward trend, being since 2021 at levels previous to 2009.

Length Distribution

Table 18 presents the abundance by length and total by year, the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch

and the observed length range, as well as the total catch of this species for the last five years of survey. Figure 17 shows the length distribution by year.

No good recruitment can be observed in the series since 2009. The only good year class observed was recorded in 2009 and this cohort can be tracked until 2019.

Witch flounder

Figure 18 presents the maps with the distribution of the hauls catches of witch flounder in the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 19 shows the biomass per swept area by stratum for witch flounder, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year for the last five years of survey. Figure 19 presents the total biomass and abundance indices by year.

Witch flounder indices follow a fluctuating downward trend throughout the entire period, reaching the lowest level in 2022 and the maximum in 2004.

Length Distribution

Table 20 presents the abundance of witch flounder by length and total by year, the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species for the last five years of survey. Figure 20 shows the length distribution by year.

The most abundant recruitments were observed in the period 2002-2005 and has been very poor since then. Some modes can be tracked, probably due to the recruitments at the beginning of the series. In general, there was a quite good presence of individuals of lengths 34-42 cm except in 2022, when the presence of all the length ranges was poor.

Roughhead grenadier

Figure 21 presents the maps with the distribution of the hauls catches of roughhead grenadier in the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 21 shows the biomass per swept area by stratum for roughhead grenadier for the last five years of survey, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year. Figure 22 presents the total biomass and abundance indices by year.

The roughhead grenadier biomass and abundance indices follow an oscillating decreasing trend since 2004-2006, reaching the minimum of the series in 2019. In 2023, both indices remain at low levels.

Length Distribution

Table 22 presents the abundance of roughhead grenadier by length and total by year besides the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species for the last five years of survey. Figure 23 shows the length distribution by year.

The cohort being 10-11 cm in 1998 is easily followed until 2009. Signs of abundance of young sizes can be observed in almost every year, although it is very difficult to track them in the following years.

Thorny skate

Figure 24 presents the maps with the distribution of the hauls catches of thorny skate in the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 23 shows the biomass per swept area by stratum for thorny skate, the total biomass, stratified mean weight per tow and abundance and their variance per year for the last five years of survey. Figure 25 presents the total biomass and abundance indices by year.

Thorny skate biomass and abundance indices oscillate during the entire series. From their maximum values in the 2004-2006 period, they show a general downward trend, reaching the minimum of the series in 2019 and 2022. In 2023, the indices recovered to intermediate levels.

Length Distribution

Table 24 presents the abundance of thorny skate by length and total by year besides the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species for the last five years of survey. Figure 26 shows the length distribution by year.

The recruitment (<18 cm) was good in 1997, 2002, 2010 and quite good in 2021 and 2023. In 2021 and 2023 all the length ranges recovered from the low values of 2019 and 2022, when all the length ranges were very poor, as a result of the drop of the biomass and abundance.

White hake

Figure 27 presents the maps with the distribution of the hauls catches of white hake in the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 25 shows the biomass per swept area by stratum for white hake for the whole period, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year for the last five years of survey. Figure 28 presents the total biomass and abundance indices by year.

Biomass and abundance indices have been at low levels since 2001, when the maximums of the series were reached.

Length Distribution

Table 26 presents the abundance of white hake by length and total by year besides the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species for the last five years of survey. Figure 29 shows the length distribution by year.

Individuals within the length range 30-38 cm were very abundant in 2001 and can be followed up to 2006. All year classes have been poor since then, although small recruitment events were detected in 2004, 2013 and 2017, with individuals between 16-26 cm.

Squid

Figure 30 presents the maps with the distribution of the hauls catches of squid in the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 27 shows the biomass per swept area by stratum for squid, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year for the last five years of survey. Figure 31 presents the total biomass and abundance indices by year.

Squid biomass and abundance indices are very low in general. In 2018 and 2019 a sharped increase in biomass was observed during the survey. This increase is observed only in 2019 in the abundance due to no samples of this species were recorded during the 2018 survey. In 2021, the indices return to the low levels observed in previous years, and the situation remains the same since then.

Length Distribution

Table 28 presents the abundance of squid by length and total by year besides the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species for the last five years of survey. Figure 32 shows the length distribution by year. Samples of this species were taken only in years 2011, 2017, 2019 and 2021.

In the years sampled, all the length classes were very poor except for 2019, when the length classes between 8 and 16 cm were well represented.

Capelin

Figure 33 presents the maps with the distribution of the hauls catches of capelin in the EU-Spain Divs. 3NO survey for the last four years.

Biomass and abundance

Table 29 shows the biomass per swept area by stratum for capelin, as well as the total biomass, stratified mean weight per tow and abundance and their variance per year for the last five years of survey. Figure 34 presents the total biomass and abundance indices by year.

The biomass of this species showed an increasing trend from 2007 to 2012, when the maximum of the series was reached. Since then, the biomass declined until 2021, reaching again intermediate levels in 2022. The abundance index trend is similar to the biomass one, although the maximum was reached in 2009. In 2023, both indices declined again to very low levels.

Length Distribution

Table 30 presents the abundance of capelin by length and total by year, the number of samples in which there were length measures, the total number of individuals measured in these samples, the sampled catch and the observed length range, as well as the total catch of this species for the last five years of survey. Figure 35 shows the length distribution by year.

Good recruitments are observed in 2007, 2009 and 2011. Since then, all the length classes are poor until 2022, when a signal of abundance at intermediate lengths was observed. This signal was not observed in 2023.

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Table 1. EU-Spain Divs. 3NO survey.

Year	Vessel	Valid tows	Depth strata covered (m)	Dates
1995	C/V Playa de Menduiña	77	42-684	May 18-May 29
1996	C/V Playa de Menduiña	112	41-1066	May 7-May 23
1997	C/V Playa de Menduiña	128	42-1263	April 26-May 18
1998	C/V Playa de Menduiña	124	42-1390	May 06-May26
1999	C/V Playa de Menduiña	114	41-1381	April 07-May 26
2000	C/V Playa de Menduiña	118	42-1401	May 07-May 28
2001	R/V Vizconde de Eza	83	36-1156	May 03-May 04
2001	C/V Playa de Menduiña	121	40-1500	May 05-May 23
2002	R/V Vizconde de Eza	125	38-1540	April 29-May 19
2003	R/V Vizconde de Eza	118	38-1666	May 11-June 02
2004	R/V Vizconde de Eza	120	43-1539	June 06-June 24
2005	R/V Vizconde de Eza	119	47-1438	June 10-June 29
2006	R/V Vizconde de Eza	120	45-1480	June 07-June 27
2007	R/V Vizconde de Eza	110	45-1374	May 29-June 19
2008	R/V Vizconde de Eza	122	38-1460	May 27-June 16
2009	R/V Vizconde de Eza	109	41-1424	May 31-June 18
2010	R/V Vizconde de Eza	95	40-1395	May 30-June 18
2011	R/V Vizconde de Eza	122	44-1450	June 05-June 24
2012	R/V Vizconde de Eza	122	45-1462	June 03-June 21
2013	R/V Vizconde de Eza	122	42-1459	June 01-June 21
2014	R/V Vizconde de Eza	122	42-1334	June 02-June 21
2015	R/V Vizconde de Eza	122	43-1482	May 31-June 19
2016	R/V Vizconde de Eza	115	44-1761	May 30-June 18
2017	R/V Vizconde de Eza	113	41-1439	May 23-June 11
2018	R/V Vizconde de Eza	114	47-1410	June 02-June 21
2019	R/V Vizconde de Eza	115	43-1438	June 08-June 24
2020	No survey was carried out			
2021	R/V Vizconde de Eza	113	42-1394	June 5-June 24
2022	R/V Vizconde de Eza	113	40-1460	June 13-July 01
2023	R/V Vizconde de Eza	103	41-1461	June 15-July 01

(*) In 2001, for the calculation of the series, 83 hauls were taken from the R/V *Vizconde de Eza* and 40 hauls from the C/V *Playa de Menduíña* (123 hauls in total)

Table 2. Swept area and number of hauls by stratum. Last five years of the EU-Spain Divs. 3NO survey. Swept area in square miles. No survey was carried out in 2020.

Stratum	Division	Area	2018		2019		2021		2022		2023	
			Number of hauls	Swept Area	Number of hauls	Swept Area	Number of hauls	Swept Area	Number of hauls	Swept Area	Number of hauls	Swept Area
353	**3O**	**269**	3	0.0338	3	0.0386	3	0.0398	3	0.039	2	0.0225
354	**3O**	**246**	3	0.0341	3	0.0382	3	0.0386	3	0.0386	2	0.0225
355	**3O**	**74**	2	0.0232	2	0.0262	2	0.0251	2	0.0251	2	0.0229
356	**3O**	**47**	2	0.0225	2	0.0248	2	0.0262	2	0.0251	2	0.0229
357	**3N**	**164**	2	0.0236	2	0.0251	2	0.0247	2	0.0244	2	0.0225
358	**3N**	**225**	3	0.0345	3	0.0382	3	0.0379	3	0.039	3	0.0349
359	**3N**	**421**	5	0.0589	5	0.0634	5	0.0638	5	0.0641	5	0.0566
360	**3N**	**2,783**	17	0.1939	17	0.2212	17	0.2156	17	0.2201	13	0.1481
374	**3N**	**214**	2	0.0225	2	0.0255	2	0.027	2	0.0259	2	0.0259
375	**3N**	**271**	3	0.0356	3	0.0382	3	0.0401	3	0.0386	2	0.0244
376	**3N**	**1,334**	8	0.0907	8	0.1042	8	0.1042	8	0.1009	6	0.0701
377	**3N**	**100**	2	0.0232	2	0.0262	2	0.0255	2	0.0255	2	0.0232
378	**3N**	**139**	2	0.0229	2	0.0259	2	0.0259	2	0.0255	2	0.0236
379	**3N**	**106**	2	0.0225	2	0.0262	2	0.024	2	0.0244	2	0.0225
380	**3N**	**96**	2	0.0225	2	0.0262	2	0.0247	2	0.0251	2	0.0232
381	**3N**	**144**	2	0.0225	2	0.0255	2	0.0262	2	0.0259	2	0.0247
382	**3N**	**343**	4	0.045	5	0.0645	4	0.0517	4	0.0525	3	0.0375
721	**3O**	**65**	2	0.0229	2	0.0262	2	0.0251	2	0.0225	2	0.0236
722	**3O**	**84**	2	0.0236	2	0.0255	2	0.0251	2	0.024	2	0.0229
723	**3N**	**155**	2	0.024	2	0.0248	2	0.0247	2	0.0251	2	0.0229
724	**3N**	**124**	2	0.0232	2	0.0244	2	0.0229	2	0.0255	2	0.0225
725	**3N**	**105**	2	0.0232	2	0.0255	2	0.0244	2	0.024	2	0.0236
726	**3N**	**72**	2	0.0225	2	0.0259	2	0.024	2	0.024	2	0.024
727	**3N**	**96**	2	0.0225	2	0.0248	2	0.0262	2	0.0259	2	0.0232
728	**3N**	**78**	2	0.0225	2	0.0248	2	0.0259	2	0.0236	2	0.0232
752	**3N**	**131**	2	0.0232	2	0.0266	2	0.0251	2	0.0217	2	0.0236
753	**3N**	**138**	2	0.0236	2	0.0247	2	0.0225	2	0.0247	2	0.0221
754	**3N**	**180**	2	0.0225	2	0.024	2	0.0225	2	0.0214	2	0.0229
755	**3N**	**385**	3	0.0338	3	0.0356	2	0.0225	2	0.0225	2	0.0225
756	**3N**	**101**	2	0.0229	2	0.0251	2	0.024	2	0.0225	2	0.024
757	**3N**	**102**	2	0.0225	2	0.0262	2	0.0232	2	0.0217	2	0.0236
758	**3N**	**99**	2	0.0225	2	0.0259	2	0.024	2	0.0221	2	0.0248
759	**3N**	**127**	2	0.0225	2	0.0251	2	0.0236	2	0.0236	2	0.0236
760	**3N**	**154**	3	0.0356	2	0.0255	2	0.0247	2	0.0221	2	0.0229
761	**3N**	**171**	1	0.0124	2	0.0236	2	0.0255	2	0.0244	2	0.0221
762	**3N**	**212**	2	0.0225	2	0.0255	2	0.0232	2	0.0221	2	0.0232
763	**3N**	**261**	3	0.0345	3	0.0382	3	0.0367	3	0.0334	3	0.0341
764	**3O**	**100**	2	0.0225	2	0.0248	2	0.0251	2	0.0229	2	0.0229
765	**3O**	**124**	2	0.0232	2	0.0251	2	0.0232	2	0.0229	2	0.0232
766	**3O**	**144**	2	0.0229	2	0.0248	2	0.024	2	0.0225	2	0.0225
767	**3O**	**158**	2	0.0236	2	0.0244	2	0.0232	2	0.0229	2	0.0225

Table 3. Percentage of catches for category by year and mean catch per tow by year. EU-Spain Divs. 3NO survey. No survey was carried out in 2020.

	GHL	PLA	COD	YEL	RED	WIT	RHG	SKA	HKW	SQU	CAP	Fish	Crustacea	Mollusca	Human Rests	Other	MCPT (kg)	Total catch (t)
1995	1.7	27	4.4	14	42	1.9	0.2	7.9	0	0	0.3	1.9	0	0	0	0	342	26
1996	9.7	29	3	30	7.5	2.9	1.3	14	0	0	0	3.3	0	0	0	0	515	58
1997	21	21	2.4	23	2.8	1.9	5.6	10	0	0	0.3	12.4	0	0	0	0	502	64
1998	14	20	6.6	26	13	1.8	3.7	7.8	0	0	0.1	6.9	0.1	0	0	0	1,136	141
1999	11	19	1	29	21	1.5	2.1	8.3	0	0	0	6.4	0.5	0	0	0	1,568	179
2000	7.4	24	1.7	18	18	2.2	3	9.8	0	0	0.2	10.9	5	0	0	0.2	1,782	210
2001	0.6	20	6	28	31	1.1	0.2	5.9	1.3	0	2.7	3.4	0.8	0	0	0	702	58
2002	1	21	6.3	32	6.3	0.9	2	9.6	1.4	0	5	6.9	2.4	0.3	0	5	357	45
2003	1.5	28	1.7	22	6.8	1.2	2	5.2	0.4	0	9.3	8.6	1.5	0.4	0	11.5	428	51
2004	1	22	0.9	24	11	0.8	3.2	7.3	0.2	0.4	3.6	19.1	2.1	0.3	0	4.2	530	64
2005	0.7	17	1	18	36	0.5	2.2	5.3	0.5	0	0.3	11.7	1	0.3	0	6.6	673	80
2006	0.6	22	5	20	27	0.4	2.2	6.6	0.2	0.1	0.3	7.9	1	0.2	0	7.1	660	79
2007	0.8	17	3	21	30	0.3	1.4	3.5	0.1	0	4	13.8	0.7	0.1	0	4.1	664	73
2008	1.4	21	4.6	18	18	0.4	1.4	3.4	0	0	7.7	9.7	0.4	0.1	0	14.4	690	84
2009	1.1	6.5	5.3	9.4	58	0.2	0.6	1.4	0.1	0	5.1	4	0.3	0	0	7.4	1,572	171
2010	1.6	6.8	9.2	9.2	61	0.3	0.7	1.2	0	0	3.7	3.1	0.3	0	0.1	3.2	1,425	135
2011	0.7	8.9	9.3	13	59	0.1	0.6	0.9	0.1	0.4	0.6	4.8	0.4	0.1	0	1.4	1,327	162
2012	0.9	11	10	14	39	0.3	1	2.3	0.2	0	11	7.1	0.2	0	0	3.4	1,065	130
2013	0.6	10	3.8	12	55	0.2	0.6	1.6	0.2	0	2.4	7.5	0.2	0	0	5.4	1,170	143
2014	0.9	8.5	22	13	38	0.2	0.6	0.8	0.1	0	8.1	6.6	0.3	0	0	2.1	913	111
2015	0.9	7.6	8.1	8.1	61	0.2	0.7	1.4	0.1	0	2.3	6.4	0.2	0	0	3.1	1,261	154
2016	2.1	6	8.9	19	38	0.7	0.9	3.5	0.6	0	1.4	11.8	0.5	0.1	0	7.1	518	60
2017	3.3	3.4	6.4	8.9	60	0.6	1.3	2.2	0.2	0.1	0.7	10.2	0.3	0.1	0	2.8	708	80
2018	1.5	5	1.9	9.2	60	0.2	0.6	1.8	0.1	2.4	3.1	10.8	1	0	0	1.8	726	83
2019	2.4	3.2	1.4	5.8	57	0.1	0.3	0.6	0	6	4.5	15.6	0.8	0.1	0	1.8	517	59
2021	3.1	8.9	5.7	8.6	36	0.3	1.4	6.7	0.5	0	2.2	21.3	0.7	0.3	0	4.6	346	39
2022	3.2	2.2	0.8	2.6	52	0.1	0.3	0.6	0.1	0	13	20.8	1	0.1	0	3.7	434	49
2023	4	8	1.9	11	36	0.3	1.6	2.4	0.7	0	1.4	29.5	0.5	0.2	0	3.1	386	40
Mean Percentage	**3.5**	**14**	**5.1**	**17**	**35**	**0.8**	**1.5**	**4.7**	**0.3**	**0.3**	**3.3**	**10.1**	**0.8**	**0.1**	**0**	**3.7**		

Table 4. Length-weight relationship for each species by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

		2018	2019	2021	2022	2023
American plaice	**a**	**0.0031**	**0.0036**	**0.0042**	**0.0043**	**0.0032**
	b	**3.2784**	**3.2253**	**3.1912**	**3.1801**	**3.2620**
	R^2	0.98	0.98	0.99	0.98	0.98
	N	1059	1084	1208	1208	970
Atlantic cod	**a**	**0.0053**	**0.0064**	**0.0060**	**0.0053**	**0.0058**
	b	**3.1107**	**3.0626**	**3.0698**	**3.1040**	**3.0861**
	R^2	0.99	0.98	0.99	0.98	0.97
	N	1110	822	912	490	691
Capelin	**a**	**0.0006**	**0.0009**	**0.0009**	**0.0006**	**0.0007**
	b	**3.7360**	**3.5916**	**3.6069**	**3.7037**	**3.7060**
	R2	0.87	0.92	0.94	0.86	0.94
	N	532	1359	1043	1333	513
Greenland halibut	**a**	**0.0034**	**0.0034**	**0.0038**	**0.0040**	**0.0036**
	b	**3.2127**	**3.2187**	**3.1742**	**3.1697**	**3.1943**
	R^2	0.99	0.99	0.99	0.99	0.99
	N	1447	1917	1323	1585	1024
Redfish	**a**	**0.0091**	**0.0097**	**0.0093**	**0.0082**	**0.0099**
	b	**3.1002**	**3.0895**	**3.1070**	**3.1427**	**3.0825**
	R^2	0.99	0.97	0.98	0.98	0.98
	N	1105	1083	1240	1042	824
Roughhead grenadier	**a**	**0.0831**	**0.0658**	**0.0798**	**0.0645**	**0.0712**
	b	**2.9717**	**3.0580**	**2.9814**	**3.0562**	**3.0275**
	R^2	0.98	0.99	0.98	0.99	0.98
	N	893	296	935	440	982
Squid	**a**	**0**	**0.0497**	**0.0361**	**0**	**0**
	b	**0**	**2.6237**	**2.7336**	**0**	**0**
	R^2	0	0.90	0.89	0	0
	N	0	779	314	0	0
Thorny skate	**a**	**0.0098**	**0.0081**	**0.0051**	**0.0054**	**0.0050**
	b	**2.9997**	**3.0418**	**3.1487**	**3.1389**	**3.1621**
	R^2	0.98	0.98	0.99	0.98	0.99
	N	404	109	990	98	394
White hake	**a**	**0.0060**	**0.0044**	**0.0037**	**0.0038**	**0.0021**
	b	**3.0565**	**3.1165**	**3.1533**	**3.1535**	**3.3028**
	R^2	0.97	0.98	0.98	0.99	0.97
	N	74	57	168	63	156
Witch flounder	**a**	**0.0014**	**0.0013**	**0.0023**	**0.0014**	**0.0008**
	b	**3.4047**	**3.4198**	**3.2726**	**3.3991**	**3.5371**
	R^2	0.98	0.98	0.97	0.98	0.97
	N	430	196	312	141	274
Yellowtail flounder	**a**	**0.0041**	**0.0049**	**0.0057**	**0.0046**	**0.0049**
	b	**3.2177**	**3.1647**	**3.1082**	**3.1677**	**3.1344**
	R^2	0.97	0.97	0.98	0.97	0.97
	N	794	937	990	985	670

Table 5. Biomass (t) of Greenland halibut by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	83	27	174	42	86
354	6	12	67	8	7
355	9	49	3	7	4
356	1	7	12	0	4
357	1	3	26	18	37
358	10	9	52	10	212
359	16	8	45	145	79
360	13	12	186	148	438
374		0			
375				0	
376	0	0			
377	6	0	2	0	19
378	10	1	1	2	5
379	1	0	11	9	3
380	91	418	246	180	237
381	1	319	254	54	513
382	1	8	65	1	0
721	37	6	13	5	13
722	113	93	263	3	222
723	41	63	115	23	24
724	15	131	44	100	153
725	47	108	45	21	80
726	53	186	109	113	151
727	275	663	110	354	618
728	144	250	248	223	231
752	268	282	344	959	345
753	172	180	157	165	195
754	576	556	219	297	425
755	554	905	806	779	1485
756	240	286	330	516	221
757	351	252	198	1003	606
758	657	109	100	377	242
759	197	234	252	625	460
760	428	368	433	511	507
761	453	407	374	874	751
762	627	213	379	300	251
763	549	305	322	609	232
764	279	106	150	284	419
765	525	159	255	136	215
766	135	460	380	289	137
767	112	119	104	68	161
Biomass	7099	7316	6893	9258	9789
SD_B	658	811	542	1196	1150
MWPT	7.91	8.86	8.49	11.22	12.7
SD_MWPT	0.72	0.95	0.66	1.33	1.29
Abundance	12209	18483	16490	17023	17916
SD_A	970	2341	2781	2790	3288

Table 6. Greenland halibut abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
6	0	0	7	0	0
8	14	28	0	0	0
10	431	936	20	16	18
12	1,146	1,460	392	303	198
14	669	308	1,094	809	255
16	348	451	729	293	61
18	435	820	837	227	254
20	631	1,152	1,627	330	1,038
22	501	1,009	2,384	389	1,226
24	291	918	1,267	905	665
26	232	1,070	483	993	576
28	298	1,140	279	642	637
30	321	1,159	324	822	1,181
32	353	949	417	1,028	1,282
34	255	1,047	454	1,077	1,282
36	467	844	572	816	1,116
38	486	744	604	1,040	1,135
40	390	600	707	1,174	1,170
42	428	488	628	1,011	999
44	579	388	621	1,119	1,038
46	561	449	586	913	722
48	555	324	499	581	625
50	496	410	402	575	625
52	428	254	244	437	313
54	439	307	344	430	301
56	463	379	184	254	254
58	337	254	189	233	223
60	275	192	248	196	208
62	147	118	56	99	175
64	76	124	135	123	67
66	55	51	58	49	42
68	24	46	19	62	101
70	21	22	7	10	36
72	4	12	7	13	19
74	12	0	10	15	32
76	9	19	15	12	7
78	12	4	6	22	5
80	4	0	3	0	0
82	0	0	5	0	4
84	0	0	7	7	0
86	0	5	0	0	10
88	4	0	0	0	17
90	0	0	0	0	0
92	0	0	0	0	0
94	11	0	3	0	0
96	0	0	0	0	0
98	0	0	0	0	0
100	0	0	17	0	0
102	0	0	0	0	0
104	0	0	0	0	0
Total	12,209	18,483	16,490	17,023	17,916
Biomass(t)	7,099	7,316	6,893	9,258	9,789
B/SOP(%)	98	100	103	101	104
Nsamples	90	90	86	83	78
Nindiv	2,164	3,629	2,840	3,187	3,012
Minlen	9	8	7	11	11
Maxlen	95	86	101	84	88
Sampledcatch(kg)	1,211	1,311	1,207	1,591	1,602
Totalcatch(kg)	1,215	1,415	1,207	1,591	1,602

Table 7. Age-Length Key of Greenland halibut in 2023. EU- Spain Divs. 3NO survey.

Length	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
6																						
8																						
10		3																				3
12		18																				18
14		18																				18
16		2	2																			4
18			13																			13
20			21																			21
22			25	8																		33
24			9	13																		22
26			2	16	3																	21
28				10	4																	14
30				5	14																	19
32				3	18	1																22
34					9	11																20
36					4	12																16
38					1	14	3															18
40						10	9															19
42						7	13															20
44						2	16															18
46							12	6														18
48							8	6														14
50								11	2													13
52								5	4	2												11
54								5	9	1	1											16
56								1	6	3	1											11
58									2	7	0											9
60										1	6	2	1									10
62											3	3	2									8
64												2	3	1	1							7
66													4	1								5
68													5	1	2							8
70														3	1	2						6
72													1		2	2	1	1				7
74															2	2	1					5
76																	1					1
78																	1					1
80																						
82																		1		1		2
84																						
86																		1	1			2
88																				1		1
90																						
92																						
94																						
96																						
98																						
100																						
Total	**0**	**41**	**72**	**55**	**53**	**57**	**61**	**34**	**23**	**14**	**11**	**7**	**16**	**6**	**8**	**6**	**4**	**3**	**1**	**2**	**0**	**474**

Table 8. Abundance (thousands) of Greenland halibut by age and total by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Age	2018	2019	2021	2022	2023
0	0	0	0	0	0
1	2211	2812	2041	1354	503
2	1881	3538	5868	1685	2625
3	914	3453	1262	2008	1897
4	756	2336	945	2530	3280
5	1537	2206	1921	2415	3439
6	1770	1671	2146	3767	3300
7	1512	1057	1119	1647	1289
8	882	541	332	558	542
9	274	201	238	407	295
10	208	436	210	283	228
11	127	120	265	201	113
12	42	64	40	73	177
13	39	19	36	30	49
14	4	7	18	17	65
15	21	6	14	14	23
16	12	4	8	24	23
17	4	6	10	4	9
18	16	5	0	7	4
19	0	0	0	0	17
20	0	0	17	0	0
Total	12209	18483	16490	17023	17879

Table 9. Biomass (t) of American plaice by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	1173	20	276	186	474
354	133	128	82	18	224
355	10	16	4	6	0
356	5		5	6	2
357			33		
358	111	2236	329	28	387
359	3585	1927	2209	842	3308
360	27037	2022	10877	3594	16571
374	1638	199	607	259	7202
375	642	71	172	436	486
376	3898	612	687	144	934
377	932	1273	1598	690	996
378	582	108	107	292	278
379	6		2		0
380	2175	118	30	9	
381	805	1309	350	776	391
382	839	1660	10100	942	3934
721			5		
722					
723					
724					
725	0		3		
726					
727	25	51			
728	9				
752					
753					
754					
755					
756					
757					
758					
759					
760					
761					
762					
763					
764					
765					
766					
767					
Biomass	43607	11751	27475	8228	35187
SD_B	6971	2655	8940	1284	4467
MWPT	48.18	14.79	34.1	10.6	40.38
SD_MWPT	7.92	3.31	10.98	1.59	5.09
Abundance	138800	30153	93318	37036	147875
SD_A	24010	5360	19049	7739	18705

Table 10. American plaice abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
2	0	0	0	0	0
4	0	0	94	0	0
6	0	0	2,739	7	19
8	16	44	6,892	0	408
10	49	23	1,094	734	601
12	22	27	155	4,082	2,494
14	375	90	771	5,296	8,030
16	674	287	873	3,755	16,182
18	1,380	223	1,215	1,025	23,440
20	3,066	382	3,683	374	17,910
22	5,996	1,001	10,769	697	7,859
24	8,440	1,324	10,001	1,438	3,987
26	11,264	2,192	4,144	2,513	5,763
28	12,700	2,234	3,308	2,466	7,258
30	22,183	3,146	5,405	2,638	7,311
32	21,807	3,983	8,908	2,487	8,688
34	16,421	3,789	9,356	2,487	9,300
36	9,668	2,581	7,076	2,123	6,854
38	7,698	1,865	4,430	1,307	4,361
40	7,247	2,103	2,850	889	3,305
42	4,429	2,091	3,189	736	3,195
44	2,726	1,548	3,025	760	4,026
46	1,080	566	1,941	567	3,193
48	544	319	738	319	2,048
50	439	101	429	156	755
52	150	87	33	74	418
54	77	61	40	18	239
56	51	0	23	44	130
58	98	49	34	16	59
60	115	0	20	11	0
62	41	25	63	13	41
64	41	13	0	0	0
66	0	0	21	0	0
68	0	0	0	0	0
70	0	0	0	0	0
72	0	0	0	0	0
74	0	0	0	0	0
76	0	0	0	0	0
Total	138,800	30,153	93,318	37,036	147,875
Biomass(t)	43,607	11,751	27,475	8,228	35,187
B/SOP(%)	96	102	104	101	103
Nsamples	65	59	64	56	47
Nindiv	6,726	3,355	6,332	3,752	6,912
Minlen	8	8	5	7	6
Maxlen	64	64	67	63	63
Sampledcatch(kg)	2,120	1,211	1,744	1,055	1,651
Totalcatch(kg)	4,163	1,885	3,477	1,072	3,188

Table 11. Biomass (t) of Atlantic cod by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	187		1		13
354	24		1		10
355		2			2
356	6		7	2	
357	443	134	12		
358	115	339	3363	73	232
359	111	110	39	699	268
360	3124	507	592	19	218
374			24	14	2
375	85	81	114	22	607
376	331	448	168	18	1635
377	2573	1075	666	134	245
378	1422	64	175	186	101
379	40	7	12	119	19
380	422	62	9	1	
381	1524	1216	7294	445	938
382	214	441	209	468	2590
721					
722					
723	35	42			
724					
725					
726					
727		12			
728					
752					
753					
754					
755					
756					
757					
758					
761					
762					
763					
764					
765					
766					
767					
Biomass	10655	4541	12685	2198	6880
SD_B	2373	675	7144	821	1857
MWPT	13.84	10.14	16.59	4.47	8.95
SD_MWPT	2.61	0.85	9.29	1.05	2.12
Abundance	10232	4166	19904	3093	9110
SD_A	2972	485	9852	843	1736

Table 12. Atlantic cod abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
6	0	0	13	0	0
8	0	0	13	0	0
10	14	26	128	0	25
12	52	25	269	13	0
14	100	19	971	13	132
16	173	59	1,218	0	74
18	88	66	462	29	12
20	53	73	135	24	64
22	47	109	35	36	95
24	152	97	117	24	267
26	374	134	320	29	551
28	463	119	507	131	738
30	445	81	589	246	1,036
32	611	80	890	347	966
34	682	134	1,583	426	593
36	850	229	1,847	320	611
38	798	291	1,876	304	577
40	750	274	2,004	264	687
42	723	292	1,284	116	449
44	536	376	1,303	158	351
46	473	217	573	112	279
48	382	263	638	81	220
50	251	219	561	45	158
52	246	214	387	48	171
54	179	126	424	33	122
56	172	126	399	22	191
58	126	51	423	6	82
60	172	49	148	31	70
62	72	42	173	27	54
64	103	45	104	27	71
66	83	22	161	37	81
68	85	28	68	13	0
70	75	22	76	4	21
72	83	20	66	31	55
74	112	13	39	4	30
76	97	17	22	37	5
78	70	27	16	0	56
80	64	24	0	22	39
82	109	23	4	0	19
84	100	38	20	13	0
86	114	7	0	4	0
88	27	13	0	7	38
90	0	13	0	0	19
92	29	19	0	0	26
94	19	0	26	7	38
96	29	13	0	0	0
98	0	7	0	4	0
100	29	13	0	0	19
102	0	0	0	0	19
104	14	0	0	0	0
106	0	0	0	0	0
108	0	0	0	0	0
110	8	0	0	0	0
112	0	0	0	0	0
114	0	0	0	0	0
116	0	13	0	0	0
118	0	0	13	0	0
120	0	0	0	0	0
122	0	0	0	0	0
124	0	0	0	0	0
126	0	0	0	0	0
128	0	0	0	0	0
130	0	0	0	0	0
132	0	0	0	0	0
Total	10,232	4,166	19,904	3,093	9,110
Biomass(t)	10,655	4,541	12,685	2,198	6,880
B/SOP(%)	99	104	103	102	105
Nsamples	47	33	46	27	33
Nindiv	1,747	822	1,821	512	1,153
Minlen	10	11	7	13	11
Maxlen	110	117	118	98	102
Sampledcatch(kg)	1,553	787	1,223	372	749
Totalcatch(kg)	1,589	803	2,225	375	749

Table 13. Age-Length Key of Atlantic cod in 2023. EU- Spain Divs. 3NO survey. 3NO.

Length	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
6																					
8																					
10	1																				1
12																					
14	6																				6
16	5	1																			6
18		2																			2
20		4																			4
22	1	8																			9
24		15																			15
26		13	1																		14
28		11	4																		15
30		4	10																		14
32		1	11	1																	13
34			12	1																	13
36			11	3																	14
38			11	2																	13
40			12	5																	17
42			5	13																	18
44				10	4																14
46			1	7	6																14
48				2	9	1															12
50				3	9																12
52				1	6	2															9
54					7	1															8
56					9	2															11
58					2	4	2														8
60					3	3	1														7
62					1		2	1													4
64					3	2		1													6
66					2	2	2	2													8
68																					
70								2													2
72						2	1	2													5
74								1	2												3
76								1													1
78							1		1			1									3
80									1	2	1										4
82								1		1											2
84																					
86																					
88								1	1												2
90												1									1
92								1	1												2
94								1	1												2
96																					
98																					
100									1												1
102															1						1
Total	13	59	78	48	61	19	9	14	8	3	1	2			1						316

Table 14. Abundance (thousands) of Atlantic cod by age and total year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Age	2018	2019	2021	2022	2023
1	426	153	3011	25	224
2	1074	610	1413	332	1869
3	3556	558	7949	1354	3922
4	1389	1372	3739	900	1360
5	1591	533	1271	191	1009
6	532	446	1621	65	233
7	427	159	470	125	108
8	134	39	220	65	178
9	284	51	126	15	119
10	355	52	28	10	21
11	57	59	10	7	9
12	350	25	10	0	38
13	43	74	39	0	0
14	14	34	0	0	0
15	0	0	0	0	19
16	0	0	0	0	0
17	0	0	0	4	0
18	0	0	0	0	0
19	0	0	0	0	0
20	0	0	0	0	0
Total	10232	4166	19904	3093	9110

Table 15. Biomass (t) of yellowtail flounder by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	81		729	91	175
354			4		
355					
356					
357					
358			13		
359	16		6		2
360	43872	20839	18223	9786	37311
374	3199	1372	3185	1013	7415
375	1014	792	1587	606	2274
376	59513	19562	15298	3628	21905
377		4			
378					
379					
380					
381					
382			8		
721					
722					
723					
724					
725					
726					
727					
728					
752					
753					
754					
755					
756					
757					
758					
759					
760					
761					
762					
763					
764					
765					
766					
767					
Biomass	107695	42569	39052	15123	69083
SD_B	15055	8886	5529	2662	16214
MWPT	118.46	59.17	50.3	19.58	78.02
SD_MWPT	16.47	11.15	6.78	3.26	18.97
Abundance	321756	117209	135272	47993	241805
SD_A	47148	24370	19524	9078	55110

Table 16. Yellowtail flounder abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
2	0	0	0	0	35
4	0	0	67	0	0
6	0	0	385	0	11
8	0	0	425	7	198
10	265	0	1,835	13	1,130
12	716	20	3,680	13	295
14	903	179	3,689	74	928
16	414	110	6,074	171	1,659
18	2,428	625	7,324	453	4,866
20	8,285	906	5,185	1,041	10,081
22	8,911	1,649	1,946	1,837	15,073
24	12,481	3,899	1,950	2,790	21,009
26	6,940	6,790	4,963	1,863	30,511
28	13,215	6,379	8,414	2,357	20,828
30	33,225	9,964	12,386	5,344	18,565
32	67,467	21,693	18,946	9,421	30,249
34	70,339	25,977	22,195	10,416	31,564
36	54,823	19,137	16,774	5,986	24,413
38	25,392	12,118	11,145	3,385	16,666
40	9,598	5,055	4,879	1,734	7,609
42	3,549	2,055	2,029	724	4,243
44	2,133	524	657	227	1,501
46	559	83	218	77	247
48	106	45	79	61	124
50	8	0	26	0	0
52	0	0	0	0	0
54	0	0	0	0	0
56	0	0	0	0	0
58	0	0	0	0	0
Total	321,756	117,209	135,272	47,993	241,805
Biomass(t)	107,695	42,569	39,052	15,123	69,083
B/SOP(%)	95	98	100	97	107
Nsamples	35	28	36	32	26
Nindiv	4,950	3,882	7,064	3,536	3,991
Minlen	10	12	5	9	3
Maxlen	50	49	50	49	48
Sampledcatch(kg)	1,844	1,512	2,193	1,142	1,169
Totalcatch(kg)	7,587	3,462	3,357	1,270	4,253

Table 17. Biomass (t) of redfish by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	1			1	
354	27	15	20	4	5
355	224	93	102	80	305
356	1258	1633	769	173	3060
357	81583	67030	19562	28454	17759
358	106337	35402	28835	14463	20166
359	4274	97	3222	38545	57
360	17		332		
374					
375					
376					
377	27	1371	6		41
378	9860	21438	269	2343	6076
379	54151	33835	4041	14157	4023
380	9067	6173	6638	11946	6654
381	7	0	65	180	35
382		14		86	
721	2061	1832	1301	6028	3032
722	149	343	0	755	20
723	21101	7649	5873	18345	8347
724	2357	95	280	535	523
725	2291	1150	3699	1932	4103
726	137	184	42	43	225
727	998	73	50	61	26
728	573	68	210	23	16
752	18		4		
753		27		5	
754					
755					
756	21				
757					
758				13	
759					18
760		4	38		
761					
762					
763		30	6		
764					
765					
766	7				
767					
Biomass	296546	178556	75364	138170	74492
SD_B	97610	51166	19245	66695	16019
MWPT	333.33	222.58	92.85	239.75	83.1
SD_MWPT	106.5	65.64	23.25	80	17.84
Abundance	1587417	779745	320592	504652	285497
SD_A	581943	193687	74566	249955	80304

Table 18. Redfish abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
4	21	77	0	0	0
6	727	126	867	330	226
8	1,285	151	715	693	366
10	407	97	1,238	1,252	295
12	942	2,779	2,681	365	2,431
14	2,734	9,897	1,068	1,902	688
16	967	9,853	874	1,354	3,053
18	6,650	5,524	4,375	2,225	10,587
20	112,523	19,789	15,074	5,538	34,302
22	658,188	159,598	80,689	45,082	45,658
24	490,376	220,766	89,264	151,513	52,920
26	222,556	210,903	64,717	141,831	44,161
28	55,821	97,528	39,802	104,599	53,496
30	20,678	30,360	12,989	31,224	24,928
32	9,565	10,756	4,058	11,610	8,545
34	2,575	471	1,373	3,956	2,737
36	910	434	432	714	763
38	407	309	180	365	188
40	49	219	132	42	86
42	3	92	49	51	53
44	0	11	9	6	9
46	0	0	0	0	3
48	0	0	0	0	0
50	0	0	0	0	0
52	0	0	0	0	0
54	0	0	0	0	0
56	0	0	0	0	0
58	0	0	0	0	0
60	18	0	0	0	0
62	15	0	0	0	0
64	0	3	0	0	3
66	0	0	3	0	0
68	0	0	0	0	0
70	0	0	4	0	0
Total	1,587,417	779,745	320,592	504,652	285,497
Biomass(t)	296,546	178,556	75,364	138,170	74,492
B/SOP(%)	99	99	104	106	109
Nsamples	46	42	47	39	38
Nindiv	5,726	5,217	5,001	6,290	5,067
Minlen	5	5	6	6	6
Maxlen	63	64	70	44	65
Sampledcatch(kg)	1,298	1,279	1,232	1,639	1,422
Totalcatch(kg)	50,017	34,097	13,933	25,454	14,115

Table 19. Biomass (t) of witch flounder by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	125		29	1	163
354	18	7	9		2
355	0	2		1	
356	1		1		3
357	10	8	13	1	5
358	6	53	19		42
359	183	128	85	26	50
360	68		977	25	432
374					
375					
376	36		8		22
377		7			16
378		4		3	3
379	2	5		9	2
380		2	4		10
381		12	4		
382			3		12
721	4	0	2	1	9
722	4	1	3	2	1
723	88	26	8	4	
724	36	16	24	28	12
725	1	27	16	13	6
726	34	10	1	4	70
727	55	21	13	17	5
728	45	23	6	2	14
752	152	2	28	53	26
753	14				
754				0	
755					
756	11	24	19	15	2
757	35	2	11		54
758					4
759					2
760	52	1	25	22	12
761	114	36	11	30	34
762	2				
763					
764	12	3	3	2	3
765	22	3		4	22
766	1	2	3		
767					
Biomass	1132	426	1324	262	1038
SD_B	182	61	557	57	252
MWPT	2.05	0.65	2.45	0.66	1.57
SD_MWPT	0.2	0.07	0.73	0.07	0.29
Abundance	3061	1048	3330	758	2325
SD_A	409	137	1657	122	435

Table 20. Witch flounder abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
4	0	0	0	0	0
6	5	3	7	4	0
8	0	7	16	8	0
10	6	0	0	0	7
12	36	0	14	0	9
14	70	3	15	0	4
16	39	0	29	16	7
18	4	4	53	11	0
20	40	6	50	11	17
22	33	8	39	19	34
24	57	6	21	27	56
26	67	18	151	14	109
28	218	63	249	34	123
30	336	94	188	50	132
32	362	110	177	93	158
34	295	88	228	89	187
36	187	73	206	64	132
38	268	89	288	112	123
40	212	123	378	58	309
42	206	136	400	35	351
44	169	106	489	39	182
46	215	43	191	19	221
48	148	35	94	24	102
50	33	26	43	17	57
52	22	7	0	13	3
54	12	0	0	0	0
56	20	0	0	0	0
58	0	0	0	0	0
60	0	0	0	0	0
62	0	0	0	0	0
Total	3,061	1,048	3,330	758	2,325
Biomass(t)	1,132	426	1,324	262	1,038
B/SOP(%)	102	101	101	102	105
Nsamples	50	42	53	35	53
Nindiv	476	196	377	141	312
Minlen	7	7	6	7	11
Maxlen	57	53	51	52	52
Sampledcatch(kg)	180	81	138	47	128
Totalcatch(kg)	181	82	138	47	128

Table 21. Biomass (t) of roughhead grenadier by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353					
354					
355				6	
356	8				0
357			20		18
358			1	4	5
359					
360					
374					
375	1				
376					
377	2				
378					
379	45	14	39	21	41
380	6	9	312	13	159
381	1	1	37	10	184
382					
721				5	13
722	8	8	2	6	13
723	76	27	27	7	17
724	86	26	72	30	18
725	30	62	60	22	29
726	21	87	66	34	22
727	84	31	251	13	47
728	28	23	223	14	21
752	120	20	155	32	421
753	140	61	41	75	102
754	235	165	425	65	532
755	642	37	495	308	442
756	255	24	115	30	795
757	430	58	68	91	158
758	203	2	52	48	89
759	75	41	89	60	234
760	75	18	65	51	20
761	113	43	17	4	9
762	104	26	45	76	4
763	298	94	94	42	24
764	10	0	22	0	45
765	83	1	9	21	49
766	3	0	20	0	18
767	44		10	43	
Biomass	3227	879	2833	1132	3527
SD_B	487	97	580	267	555
MWPT	3.59	1.16	3.35	1.42	4.02
SD_MWPT	0.54	0.12	0.65	0.28	0.63
Abundance	7714	1565	7255	2906	9217
SD_A	655	187	1613	587	1190

Table 22. Roughhead grenadier abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
1	0	0	0	0	0
2	31	0	65	22	31
3	153	67	387	467	315
4	43	0	17	22	30
5	381	39	140	119	531
6	731	67	487	121	1,694
7	234	25	105	65	156
8	293	125	143	112	272
9	201	56	144	82	206
10	399	88	118	86	378
11	310	78	299	91	241
12	230	53	504	125	212
13	465	46	446	196	360
14	391	126	517	154	435
15	403	74	657	151	611
16	411	81	478	156	608
17	493	101	444	141	523
18	547	55	528	142	449
19	365	39	530	168	392
20	356	78	299	28	324
21	225	18	218	54	207
22	185	32	162	76	282
23	96	57	118	70	137
24	149	47	112	45	181
25	96	62	71	40	165
26	158	30	61	21	108
27	83	7	63	33	127
28	74	24	60	41	77
29	72	17	25	39	52
30	51	25	20	5	49
31	14	9	9	6	24
32	35	8	18	8	5
33	7	13	4	7	32
34	11	7	0	13	4
35	6	5	0	0	0
36	6	0	8	0	0
37	6	0	0	0	0
38	0	0	0	0	0
39	0	8	0	0	0
40	0	0	0	0	0
41	0	0	0	0	0
42	0	0	0	0	0
Total	7,714	1,565	7,255	2,906	9,217
Biomass(t)	3,227	879	2,833	1,132	3,527
B/SOP(%)	100	102	104	105	102
Nsamples	54	44	53	48	55
Nindiv	1,132	296	1,281	440	1,277
Minlen	2	3	2	2	2
Maxlen	38	39	36	34	34
Sampledcatch(kg)	526	176	530	171	577
Totalcatch(kg)	531	176	530	171	634

Table 23. Biomass (t) of skate by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	942	5	686	74	389
354	273	165	263	84	310
355	8	8	23		41
356	67		141		29
357	98	179	296		31
358	33	512	2074		351
359	4165	175	738	190	212
360	3459	87	12338	1138	4172
374	86		77		43
375	42	52	191	21	734
376	3003	376	5757	197	4933
377	15	63		14	84
378	77	158	0	7	
379	38	51	13		23
380	29	131	760	340	325
381	85	13	499	8	150
382	127	52	274	17	607
721	77	28	152	22	51
722	62		22		
723	49	123	182		
724	24	12			53
725	19				40
726	15				
727	387	34	28		22
728	26		7		
752	74			24	
753					
754					
755	37				
756	19				
757					
758					
759					
760					0
761			29		
762					
763					
764			17		
765					
766					
767					
Biomass	13334	2225	24567	2135	12601
SD_B	3231	377	3534	459	2346
MWPT	16.66	4.73	32.11	4.36	14.52
SD_MWPT	3.59	0.47	4.42	0.56	2.72
Abundance	4779	788	10307	764	5129
SD_A	1173	131	1449	135	892

Table 24. Skate abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
10	8	0	2	0	6
12	3	2	7	0	0
14	11	5	286	13	326
16	20	0	143	38	184
18	4	0	71	13	4
20	14	0	122	0	12
22	30	19	34	0	6
24	24	4	122	0	6
26	26	0	47	0	16
28	40	4	165	0	27
30	35	4	111	7	44
32	64	19	103	0	89
34	106	0	131	21	133
36	77	7	176	21	82
38	121	4	191	0	117
40	104	7	319	11	66
42	96	14	243	23	109
44	75	24	412	20	140
46	64	16	337	16	106
48	111	6	364	15	92
50	260	46	285	31	116
52	147	43	258	4	320
54	248	17	270	13	214
56	193	11	403	36	106
58	180	63	380	29	164
60	192	16	422	0	130
62	176	16	324	40	236
64	209	54	393	29	191
66	180	53	483	21	179
68	208	33	488	23	157
70	236	54	668	48	332
72	328	33	566	34	414
74	315	40	465	66	236
76	144	32	460	96	160
78	215	33	296	25	140
80	184	38	221	0	144
82	150	10	196	39	68
84	74	20	169	19	134
86	23	0	84	0	41
88	70	26	32	13	3
90	2	0	19	0	19
92	8	0	33	0	40
94	0	7	0	0	0
96	0	6	0	0	0
98	0	0	0	0	21
100	0	0	0	0	0
102	0	0	0	0	0
104	0	0	0	0	0
106	0	0	0	0	0
108	0	0	0	0	0
110	0	0	6	0	0
112	0	0	0	0	0
114	0	0	0	0	0
116	0	0	0	0	0
118	0	0	0	0	0
120	0	0	0	0	0
122	0	0	0	0	0
124	0	0	0	0	0
126	0	0	0	0	0
128	0	0	0	0	0
130	0	0	0	0	0
Total	4,779	788	10,307	764	5,129
Biomass(t)	13,334	2,225	24,567	2,135	12,601
B/SOP(%)	103	98	100	99	98
Nsamples	63	35	65	31	53
Nindiv	532	126	1,117	98	384
Minlen	10	13	10	14	10
Maxlen	92	96	110	88	99
Sampledcatch(kg)	1,441	348	2,623	270	947
Totalcatch(kg)	1,497	363	2,623	270	965

Table 25. Biomass (t) of white hake by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	11			4	229
354	100	39	34	8	16
355	31	20	209	36	8
356	22	3	72		198
357	126		117	14	79
358	28	12	65	122	53
359	17		14	2	4
360			1	2	
374					
375					
376					
377					
378				1	
379					
380		1		1	2
381					
382					
721	37	12	38	27	281
722			0		31
723	31	52	182	4	69
724					7
725					4
726					0
727	0				
728					
752					
753					
754					
755		0			
756	0				
757		0			
758					
759		0			
760					
761	0				
762			0		
763					
764	23		0	3	
765		0	0		
766		0			17
767					
Biomass	427	140	733	223	998
SD_B	114	56	229	76	91
MWPT	0.7	0.22	1.03	0.46	1.48
SD_MWPT	0.13	0.06	0.27	0.1	0.1
Abundance	422	266	894	348	696
SD_A	114	33	305	133	67

Table 26. White hake abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
6	0	10	3	0	0
8	14	25	24	0	0
10	4	5	0	0	0
12	0	0	0	0	0
14	0	6	0	0	0
16	0	0	13	7	0
18	14	6	13	21	0
20	4	24	3	39	0
22	14	18	21	0	15
24	21	22	15	19	0
26	33	9	6	0	0
28	25	4	38	11	0
30	14	12	15	22	0
32	21	6	18	31	23
34	54	6	12	24	37
36	34	8	6	6	24
38	24	13	44	0	48
40	3	18	117	6	12
42	15	5	65	6	24
44	7	21	67	21	12
46	25	13	57	45	4
48	14	6	80	14	27
50	3	0	61	14	17
52	0	6	36	22	83
54	0	0	31	12	40
56	7	0	30	0	54
58	0	6	21	3	64
60	0	0	22	0	19
62	7	0	3	0	32
64	2	9	13	6	24
66	10	2	18	0	42
68	0	0	9	14	6
70	0	0	6	0	19
72	0	0	13	0	18
74	25	0	6	0	24
76	0	0	0	3	15
78	7	0	0	0	0
80	0	0	0	3	3
82	9	0	0	0	8
84	0	6	6	0	0
86	0	0	0	0	0
88	0	0	0	0	0
90	10	0	0	0	0
92	0	0	0	0	3
94	3	0	0	0	0
96	0	0	0	0	0
98	0	0	0	0	0
100	0	0	0	0	0
Total	422	266	894	348	696
Biomass(t)	427	140	733	223	998
B/SOP(%)	103	101	102	101	102
Nsamples	19	18	21	16	21
Nindiv	74	57	249	63	157
Minlen	9	7	7	17	22
Maxlen	95	84	84	80	92
Sampledcatch(kg)	77	31	191	48	265
Totalcatch(kg)	83	31	191	49	265

Table 27. Biomass (t) of squid by stratum and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	3	22	1		0
354	60	1006			
355	607	45	4	1	
356	112	42	4		
357	18	36	2		
358	242	53	2		
359	3221	13551	11		
360	17695	9762	35		1
374	2	209	1		
375		1961			
376	37	3	27		3
377		134	1		
378	1	225	6		
379		23	2		
380	0	117	1		
381	0	20	2		
382	5	604	17		
721	8	9	1		
722	2	2			
723	4	96	1		
724	3	1	1		
725	4	7			
726	1	3	0		
727		3	0		
728	1	3		0	
752	0	3		0	
753	0	3			
754		2			
755	1	20			
756	0	2			
757		3			
758	1	2	0		
759		1			
760		0			
761		2			0
762	1	2	0		
763	1	4	1		
764	3	18			
765	4				
766	0	1			0
767		2	0		
Biomass	22040	28000	123	1	4
SD_B	19817	16991	23	0	3
MWPT	32.12	39.97	0.24	0	0.02
SD_MWPT	22.3	21.22	0.03	0	0
Abundance	0	678370	2442	0	0
SD_A	0	476560	476	0	0

Table 28. Squid (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
3	0	9	0	0	0
4	0	3	0	0	0
5	0	17	2	0	0
6	0	20	8	0	0
7	0	64	12	0	0
8	0	75,905	30	0	0
9	0	104,104	38	0	0
10	0	79,631	153	0	0
11	0	31,268	300	0	0
12	0	91,084	253	0	0
13	0	82,938	640	0	0
14	0	116,291	440	0	0
15	0	72,712	242	0	0
16	0	18,879	166	0	0
17	0	4,997	115	0	0
18	0	307	26	0	0
19	0	141	16	0	0
Total	0	678,370	2,442	0	0
Abundance ('000)	0	678,370	2,442	0	0
SOP(t)	0	26,389,484	118,145	0	0
Biomass(t)	22,040	28,000	123	1	4
B/SOP(%)	0	106	104	0	0
MCPT(kg)	332,134	413,363	2,497	16	192
Nsamples	0	89	47	0	0
Nindiv	0	3,366	315	0	0
Minlen	0	4	6	0	0
Maxlen	0	19	19	0	0
Sampledcatch(kg)	0	189	17	0	0
Totalcatch(kg)	1,988	3,597	17	0	0
Validhauls	114	115	113	113	103

Table 29. Biomass (t) of capelin by stratum and year. EU- Spain Divs. 3NO survey. 3NO. No survey was carried out in 2020.

Stratum	2018	2019	2021	2022	2023
353	472	836	126	1	2
354			440		17
355			11		
356		0			
357					
358				186	
359	913	97	1388	9739	187
360	13233	449	3782	56594	6027
374	348	2	2	0	81
375	57	4	2	1	109
376	566	1769	3236	2518	3761
377	3	18	21	110	
378					
379					
380	6	0			
381	3483	2			
382	6395	12672	0	0	
721					
722					
723					
724					
725					
726					
727					
728	0				
752					
753					
754					
755					
756					
757					
758					
759					
760					
761					
762					
763				0	
764					
765					
766					
767					
Biomass	25476	15849	9008	69149	10185
SD_B	6131	9083	2372	28427	3195
MWPT	49.36	24.24	12.98	89.65	12.29
SD_MWPT	6.8	11.23	2.91	35.15	3.51
Abundance	1317744	1018328	713765	3384475	755167
SD_A	306313	606727	205272	1303234	293829

Table 30. Capelin abundance (thousands) by length class and year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

Length (cm)	2018	2019	2021	2022	2023
6	0	1,277	0	0	4,999
8	0	52,666	79,602	2,928	299,469
10	9,202	12,943	251,013	181,977	19,022
12	183,550	212,344	70,181	142,052	27,900
14	667,765	541,668	188,396	1,551,411	229,506
16	449,294	187,374	121,568	1,395,511	165,284
18	6,901	10,056	3,004	110,595	8,988
20	0	0	0	0	0
22	1,031	0	0	0	0
Total	1,317,744	1,018,328	713,765	3,384,475	755,167
Biomass(t)	25,476	15,849	9,008	69,149	10,185
B/SOP(%)	111	101	102	106	100
Nsamples	42	42	39	40	25
Nindiv	2,655	2,460	2,653	3,286	1,669
Minlen	10	7	8	8	7
Maxlen	22	19	19	19	19
Sampledcatch(kg)	48	36	42	60	27
Totalcatch(kg)	2,577	2,697	853	6,211	565

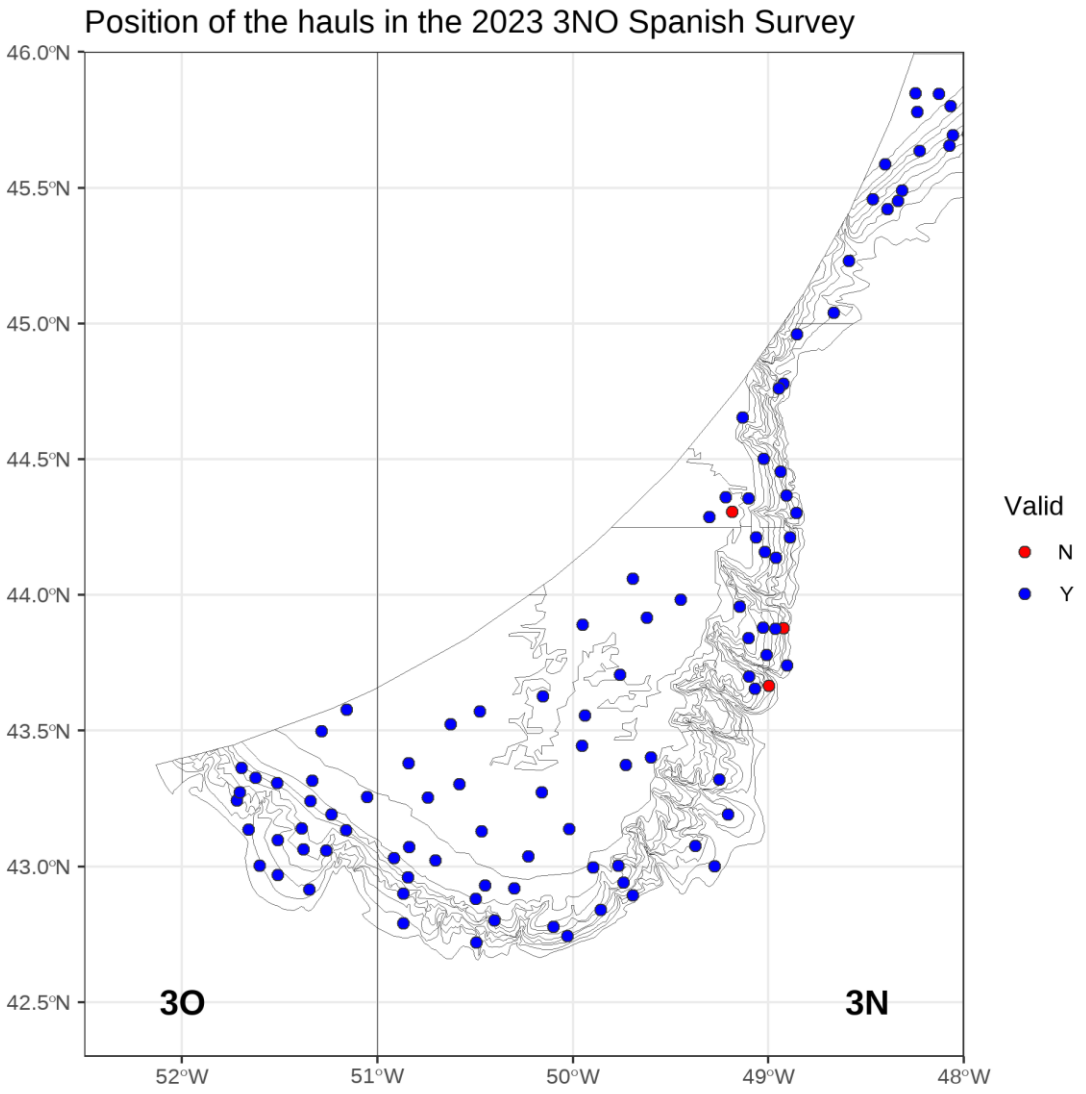

Figure 1. Position of the hauls in the 2023 EU- Spain Divs. 3NO survey.

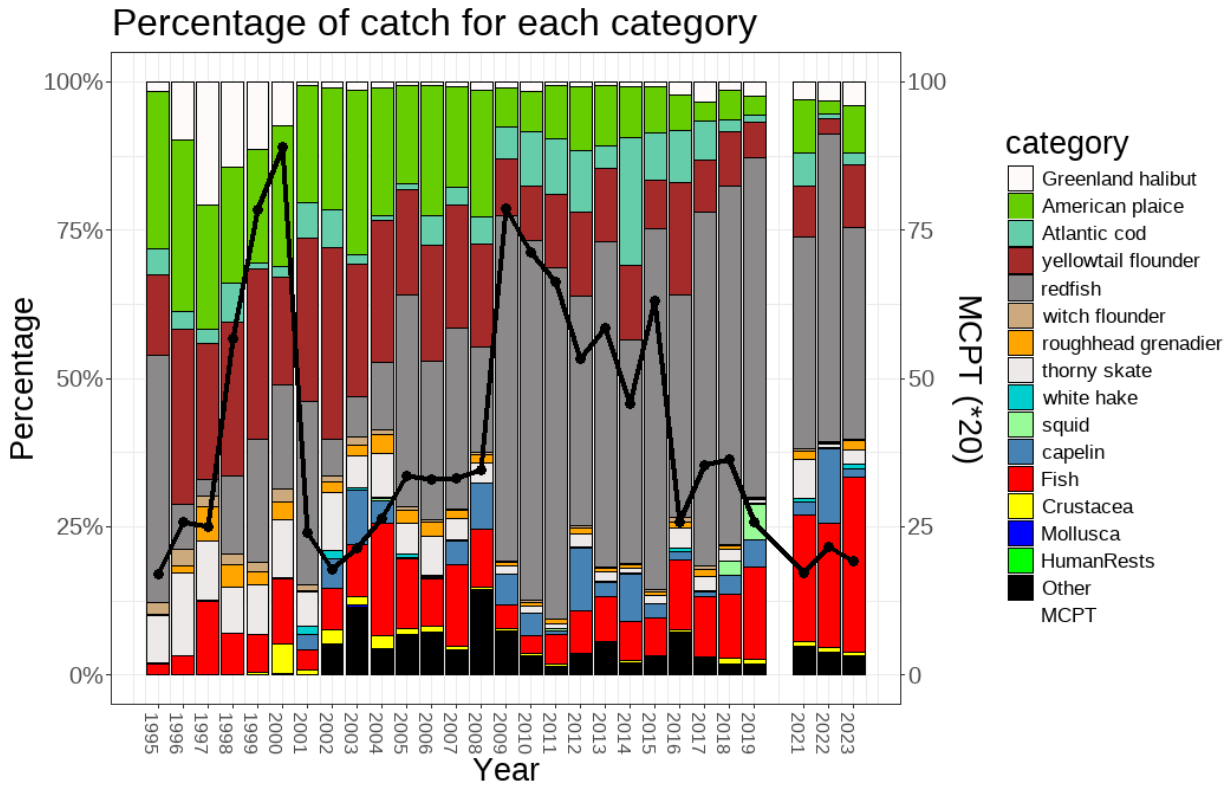

Figure 2. Percentage of the total catch for each species and group. EU- Spain Divs. 3NO survey. Black line represents Total Mean Catch per Tow of the survey. No survey was carried out in 2020.

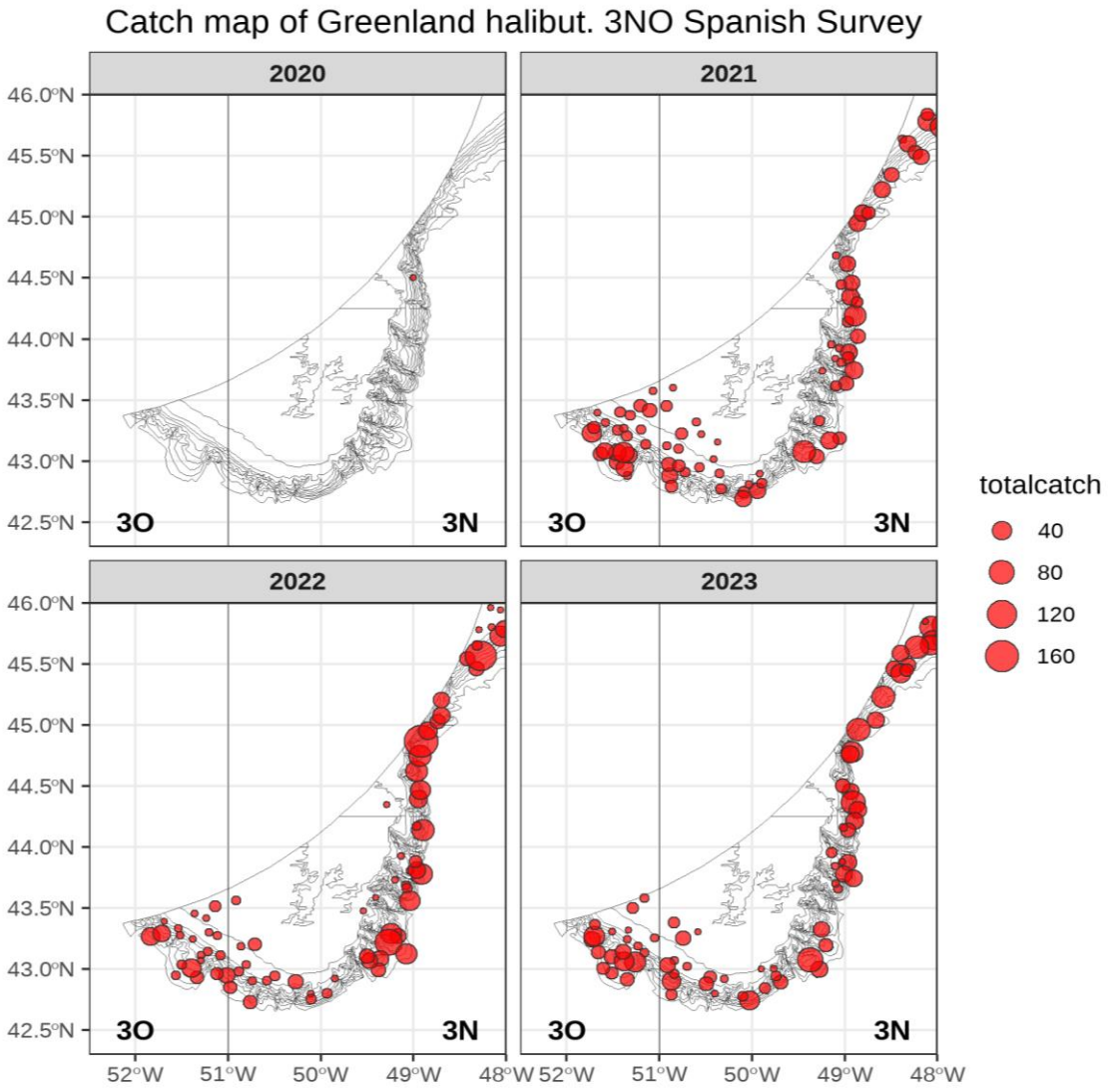

Figure 3. Greenland halibut. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey. No survey was carried out in 2020.

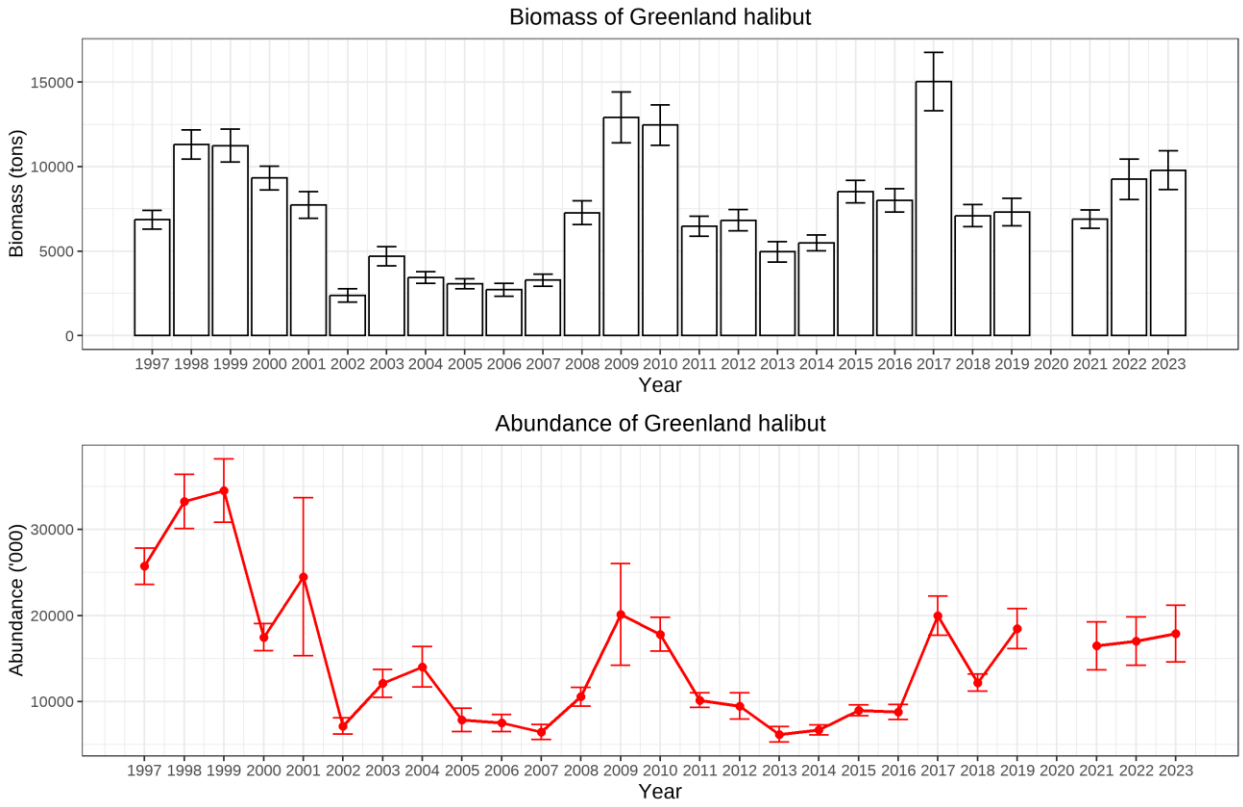

Figure 4. Greenland halibut total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey. No survey was carried out in 2020.

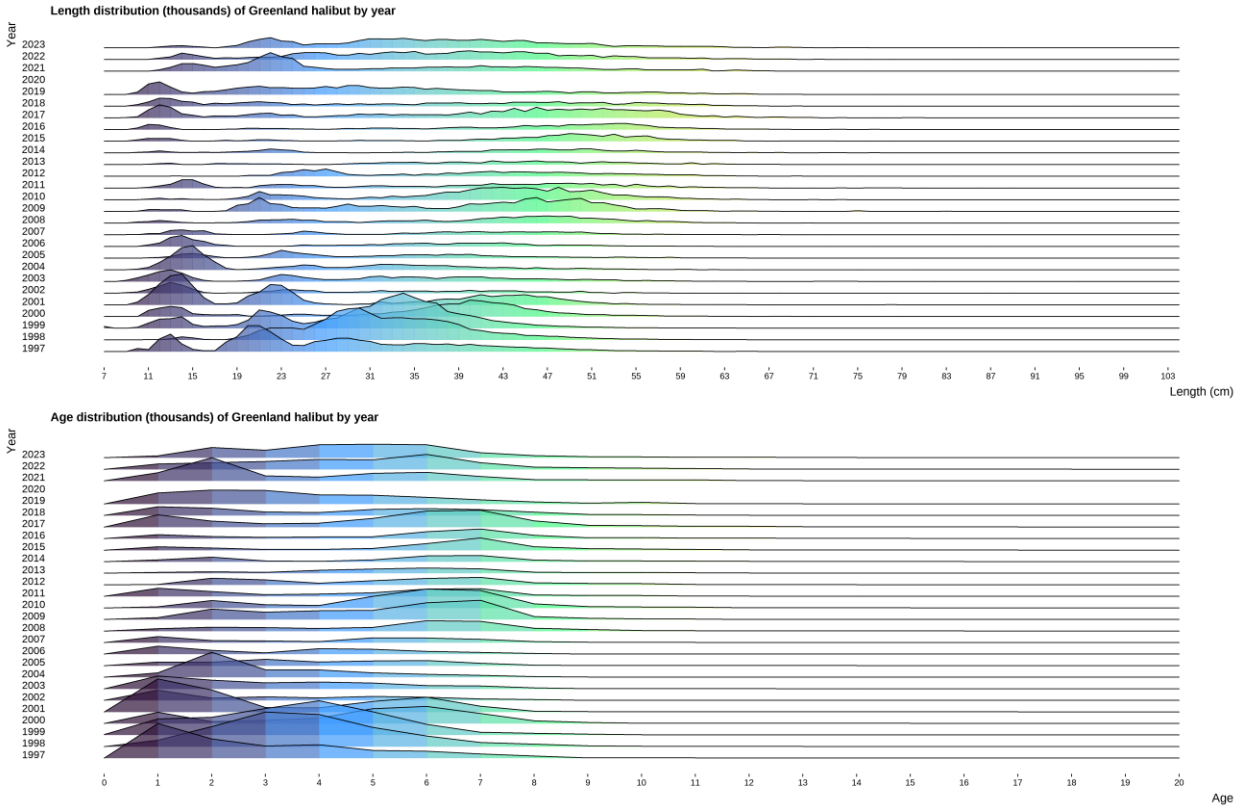

Figure 5. Greenland halibut total length (cm) (a) and age (b) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

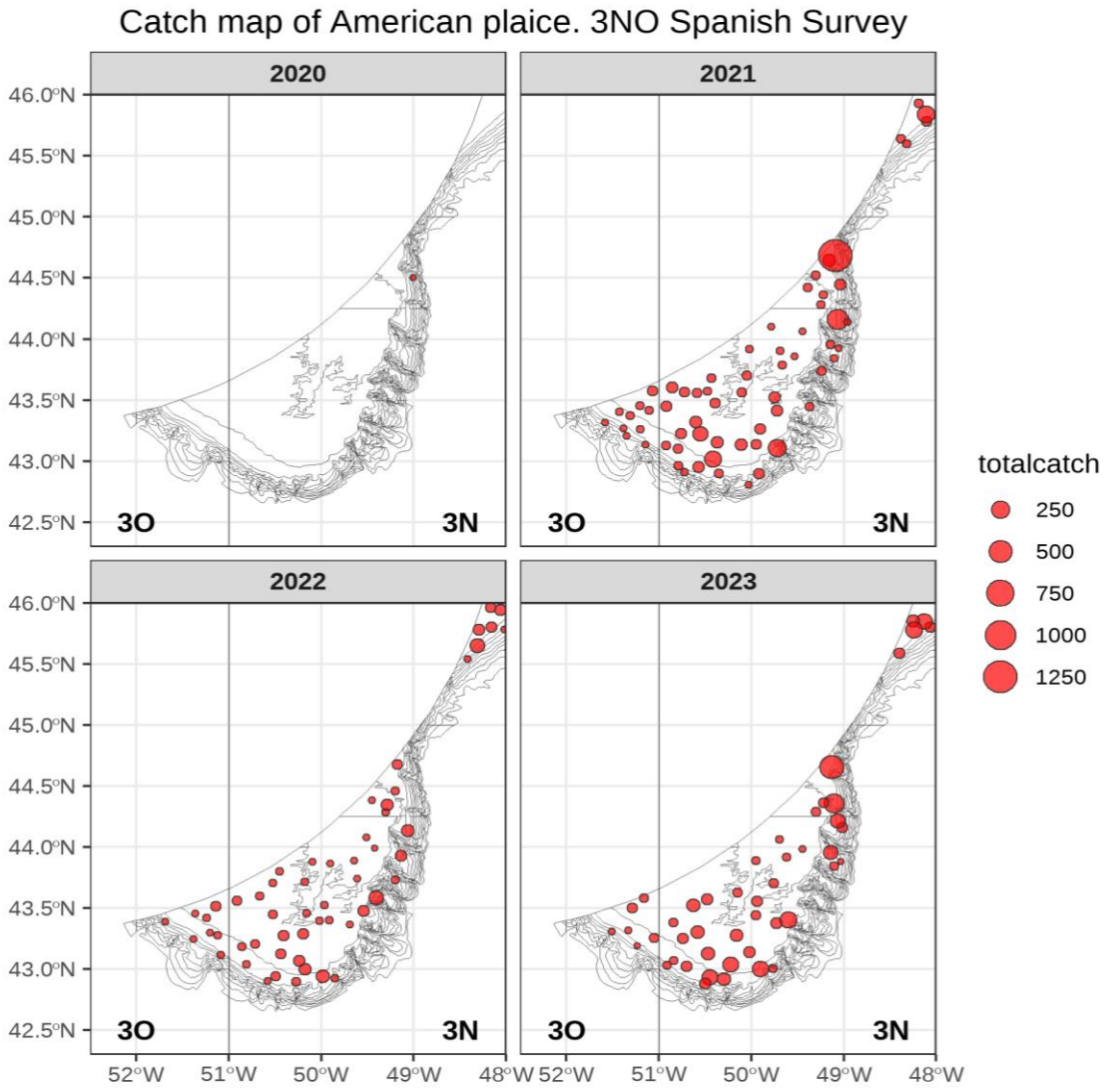

Figure 6. American plaice. Position of the hauls with catch in the last four years for the EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

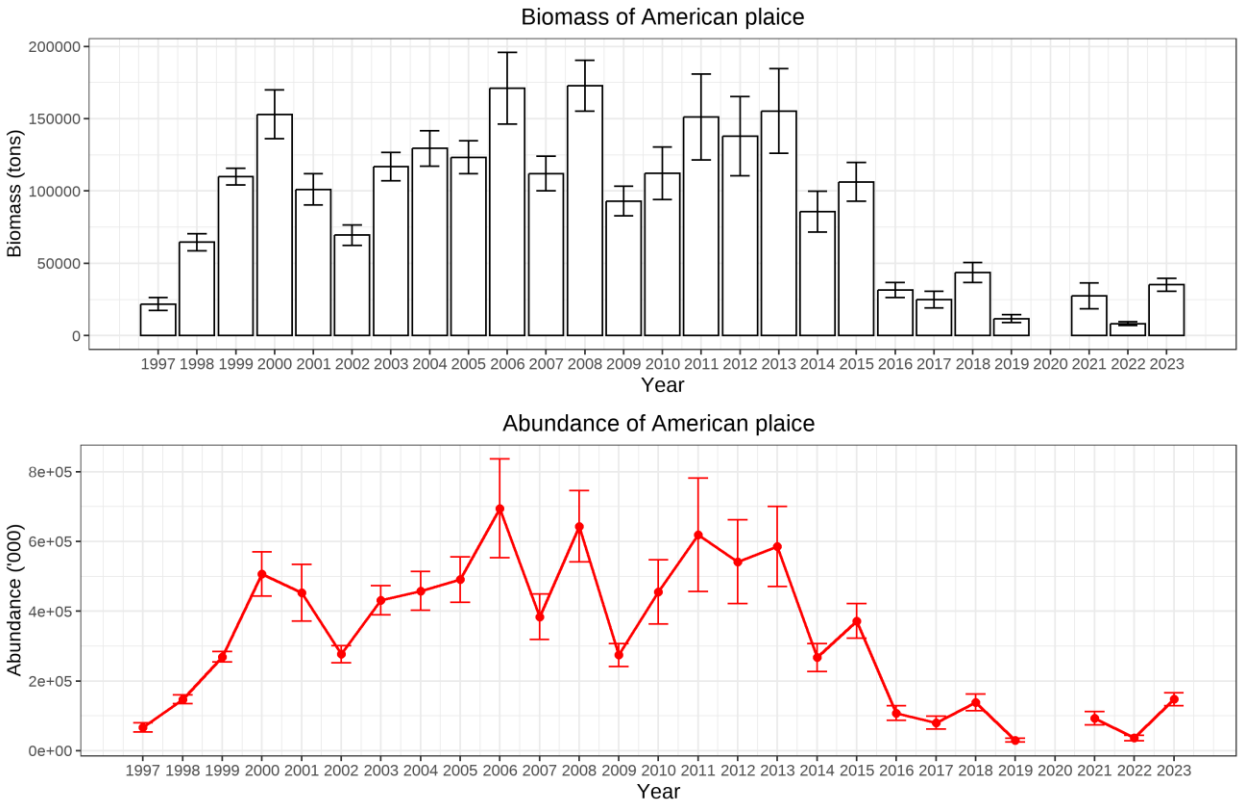

Figure 7. American plaice total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey. No survey was carried out in 2020.

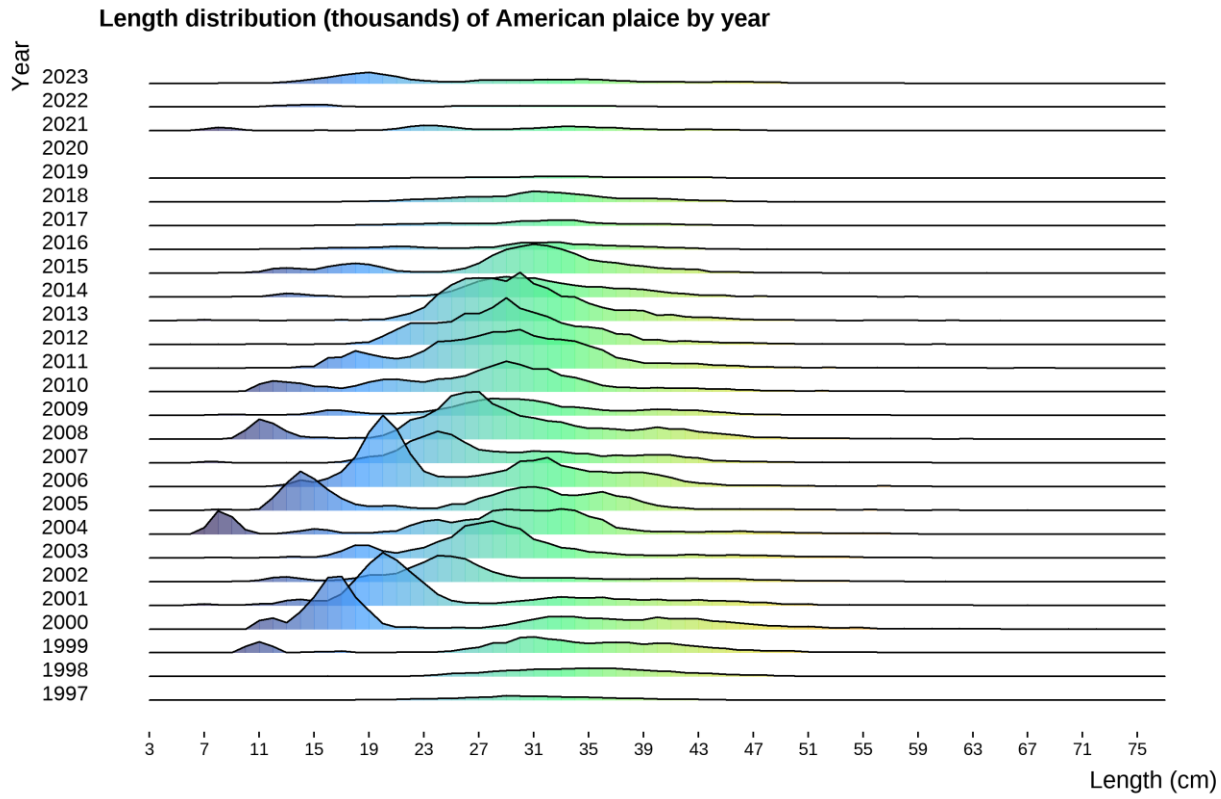

Figure 8. American plaice total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

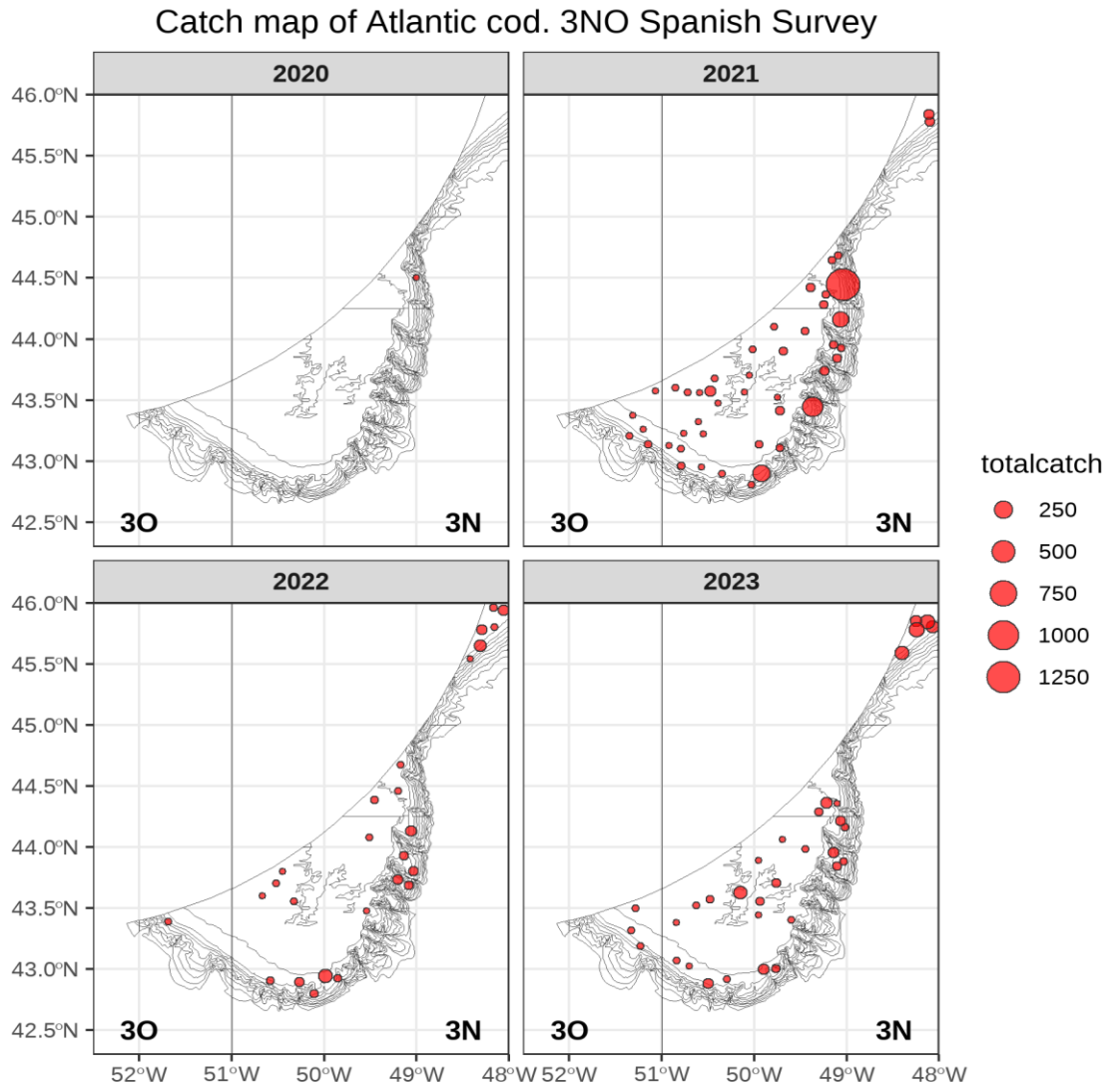

Figure 9. Atlantic cod. Position of the hauls with catch in the last four years for the EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

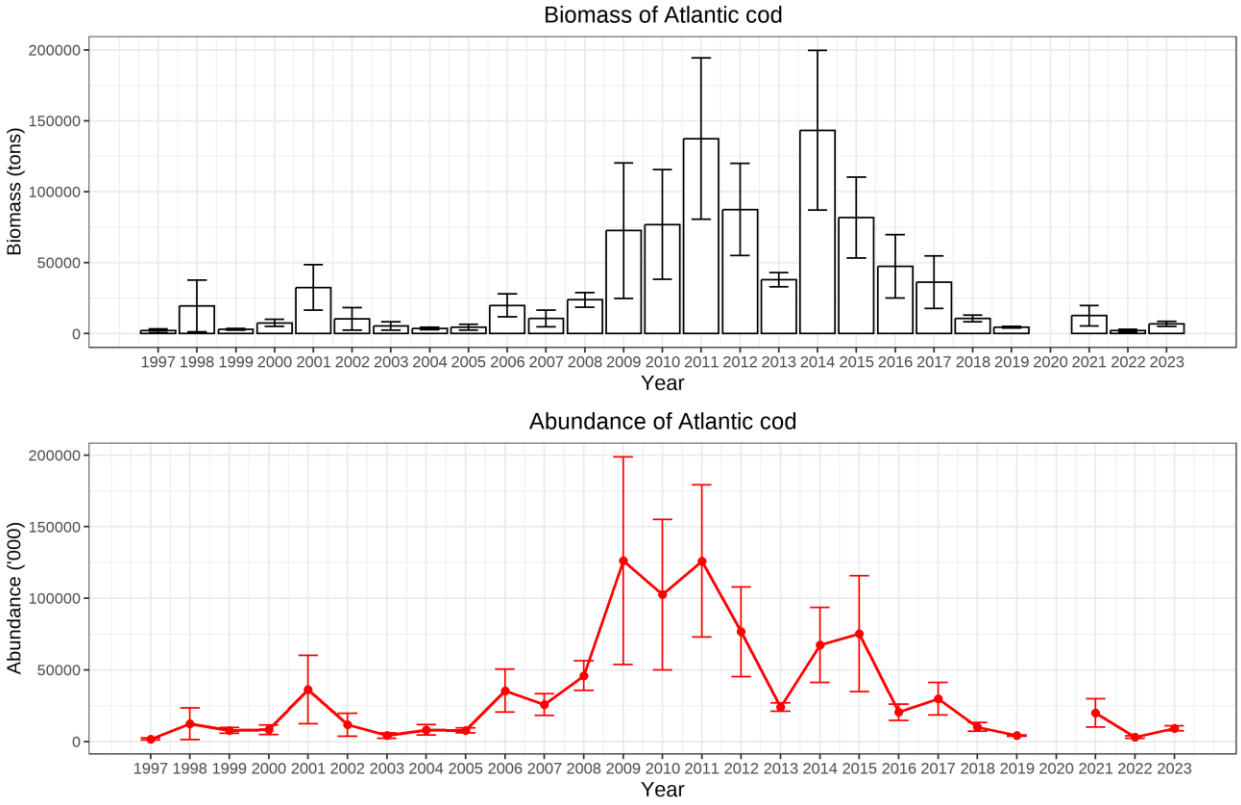

Figure 10. Atlantic cod total biomass (tons) and abundance (thousands) and SD by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

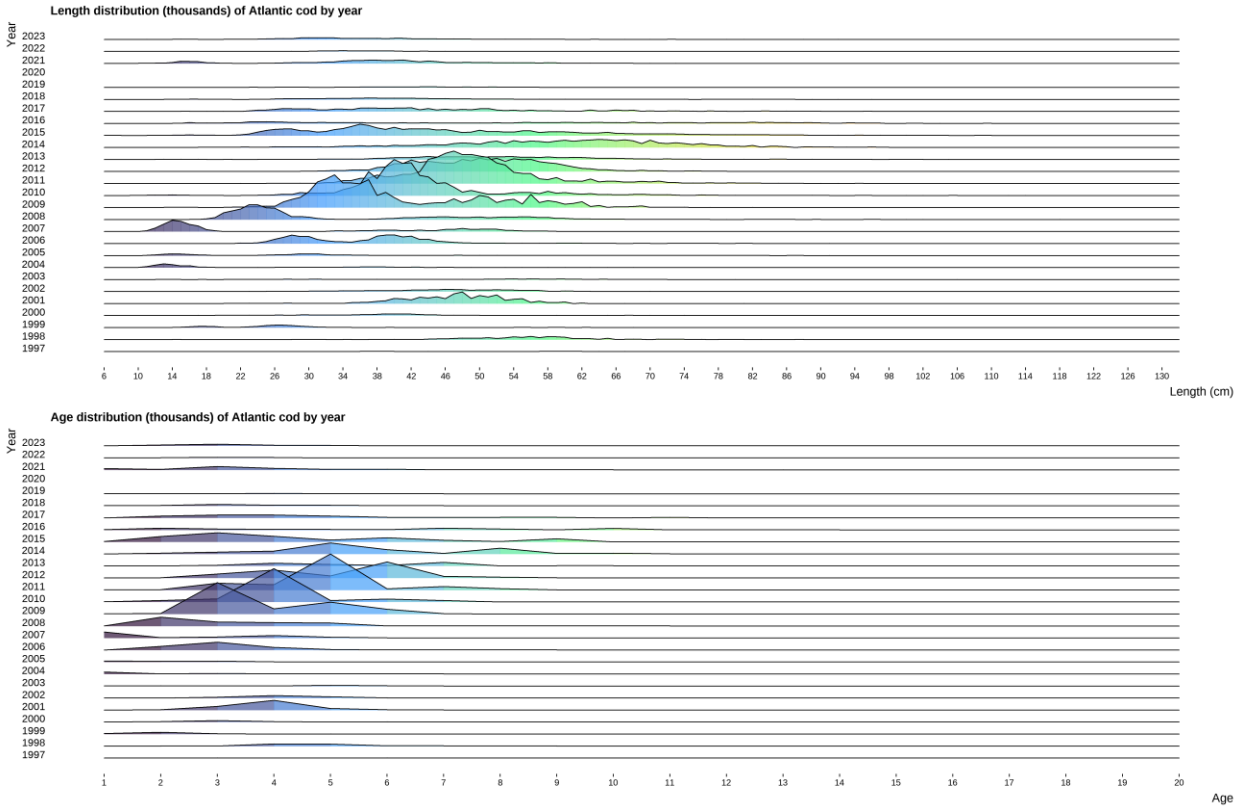

Figure 11. Atlantic cod total length (cm) (a) and age (b) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

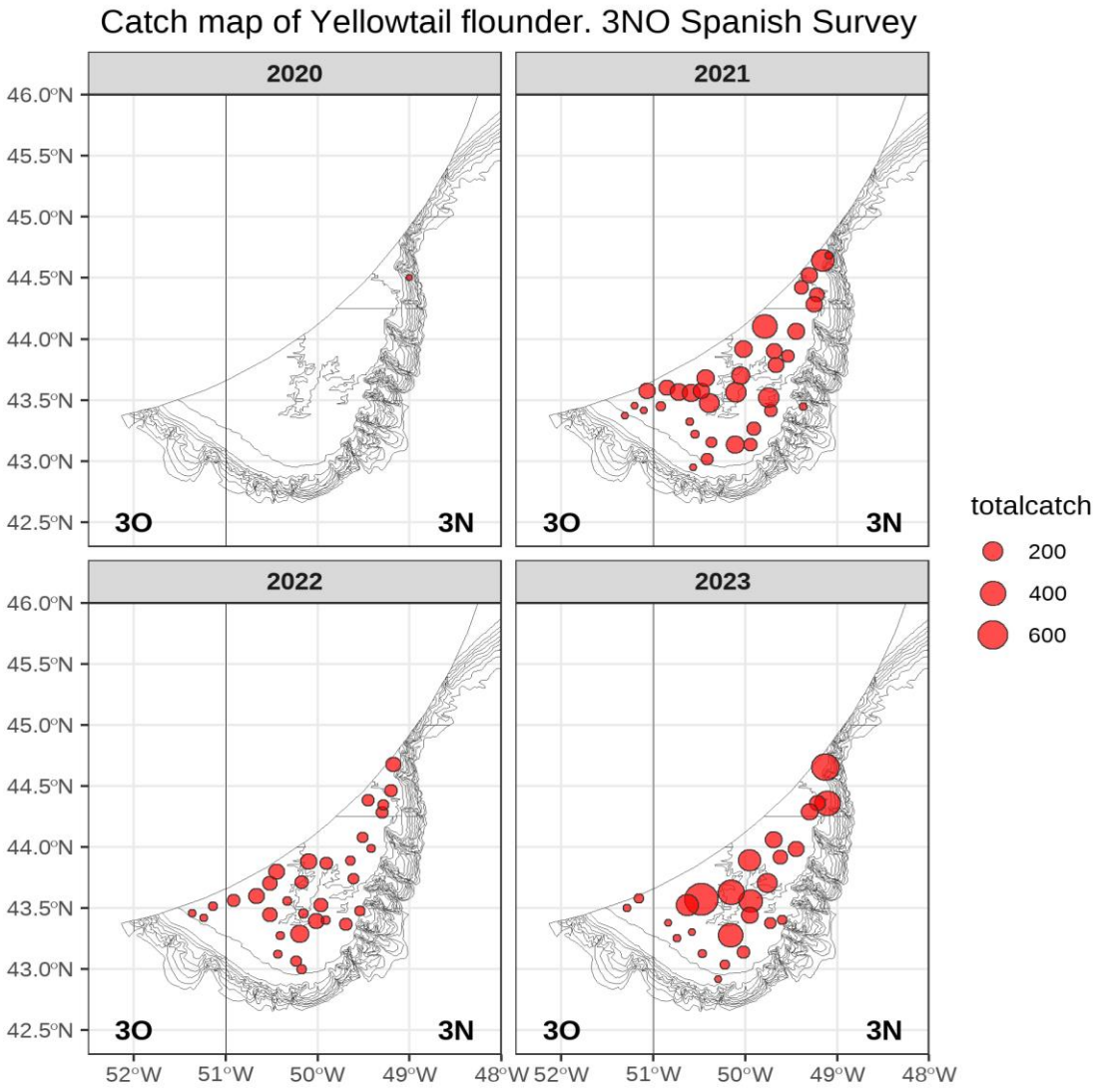

Figure 12. Yellowtail flounder. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey. No survey was carried out in 2020.

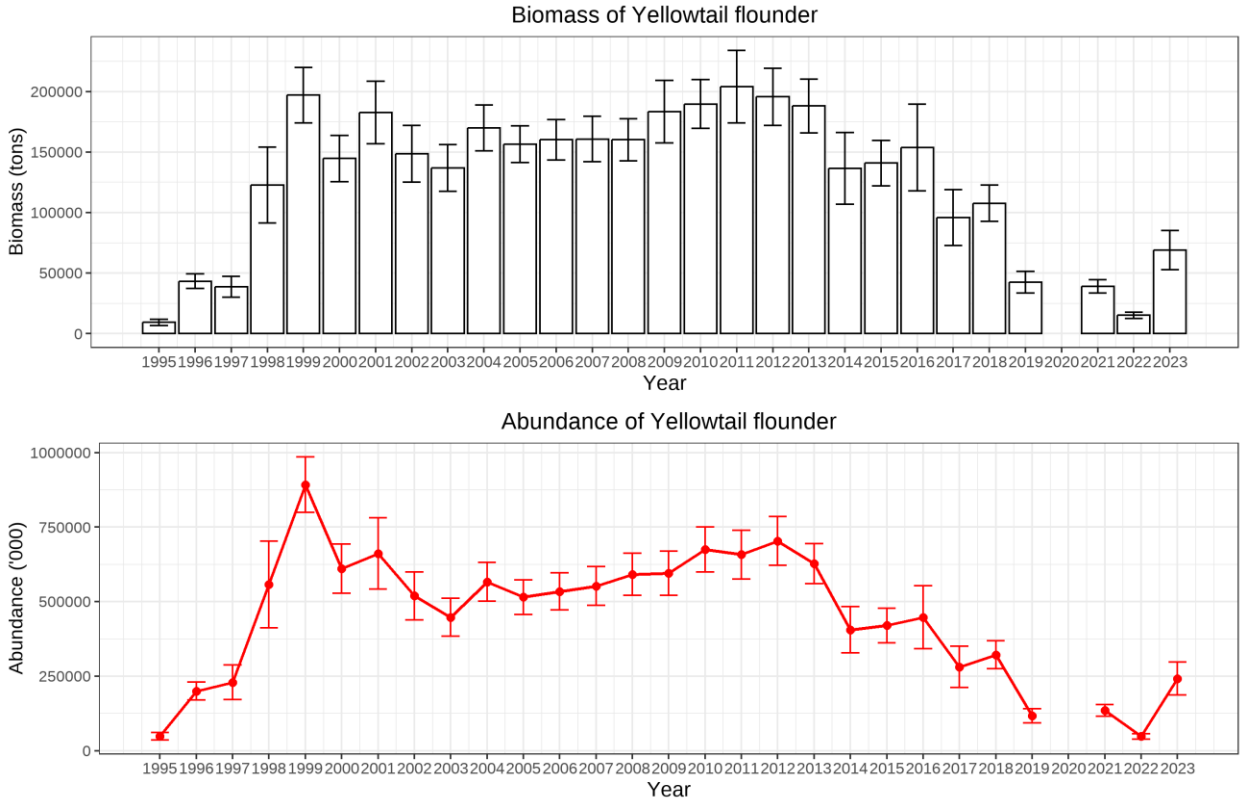

Figure 13. Yellowtail flounder total biomass (tons) and abundance (thousands) and SD by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

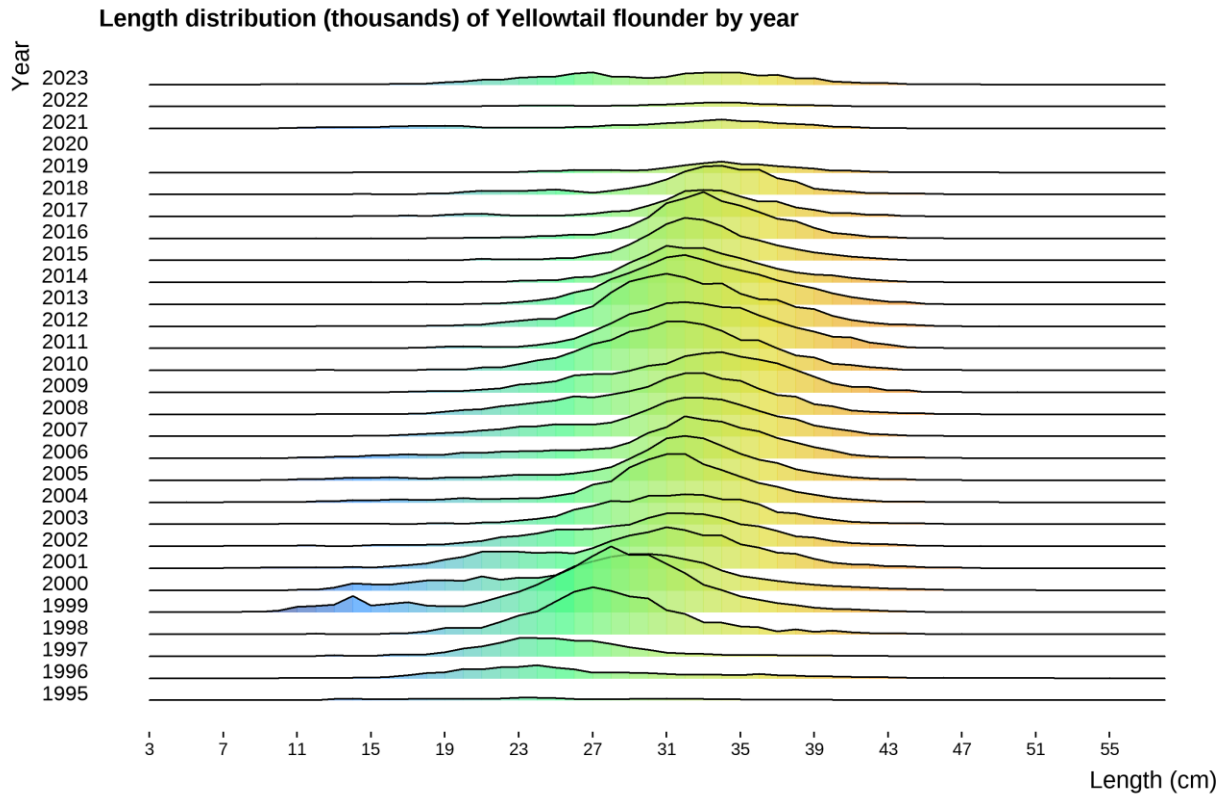

Figure 14. Yellowtail flounder total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

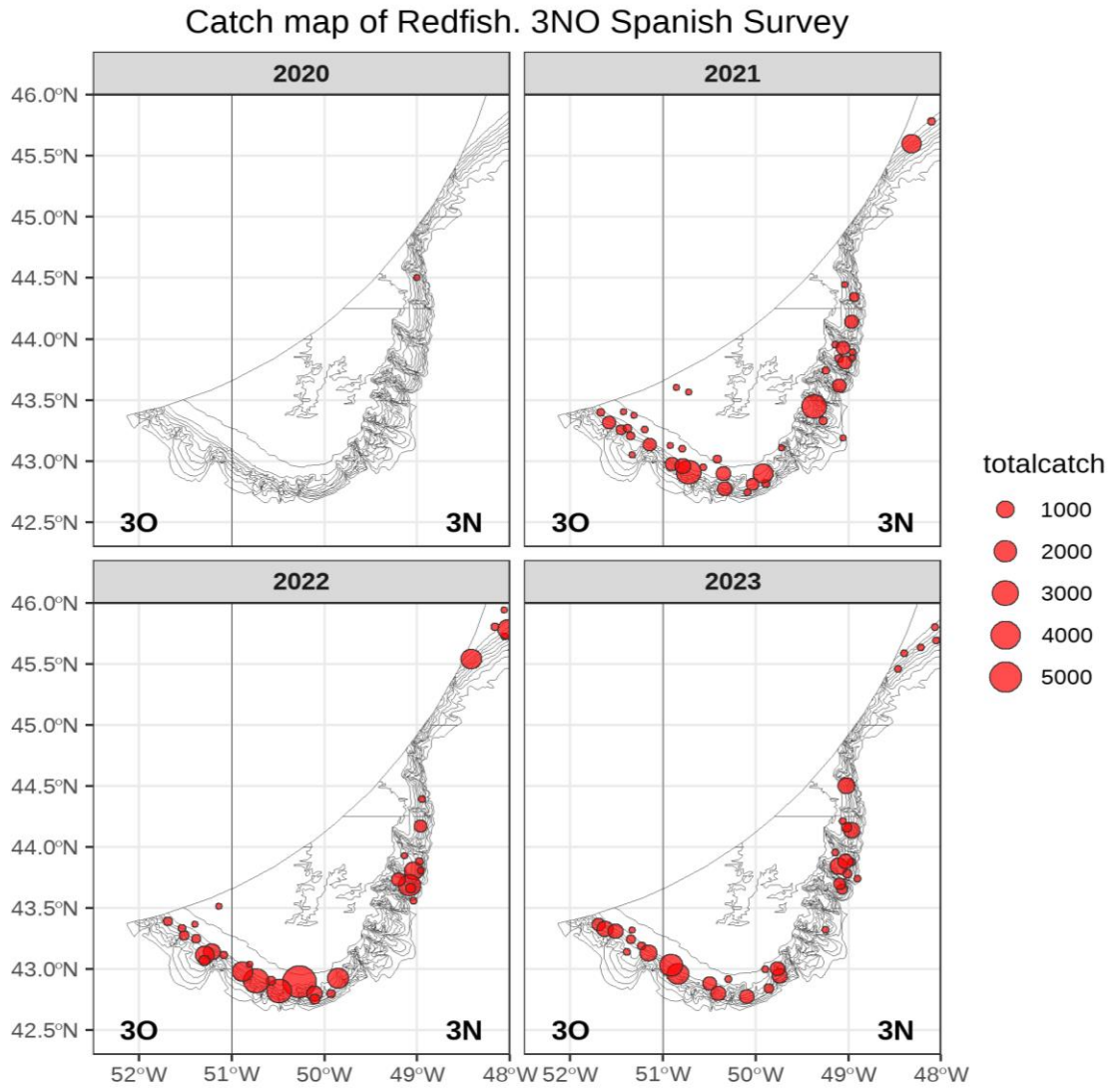

Figure 15. Redfish. Position of the hauls with catch in the last four years for the EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

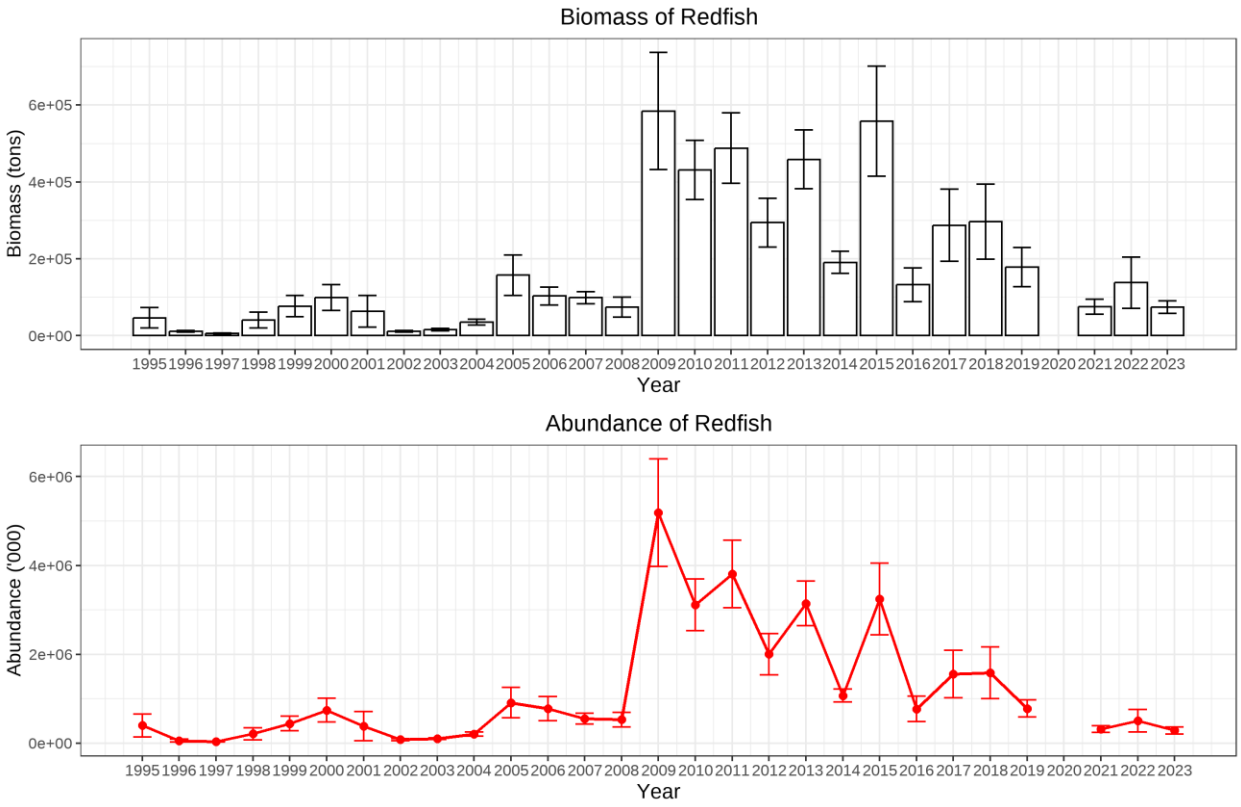

Figure 16. Redfish total biomass (tons) and abundance (thousands) and SD by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

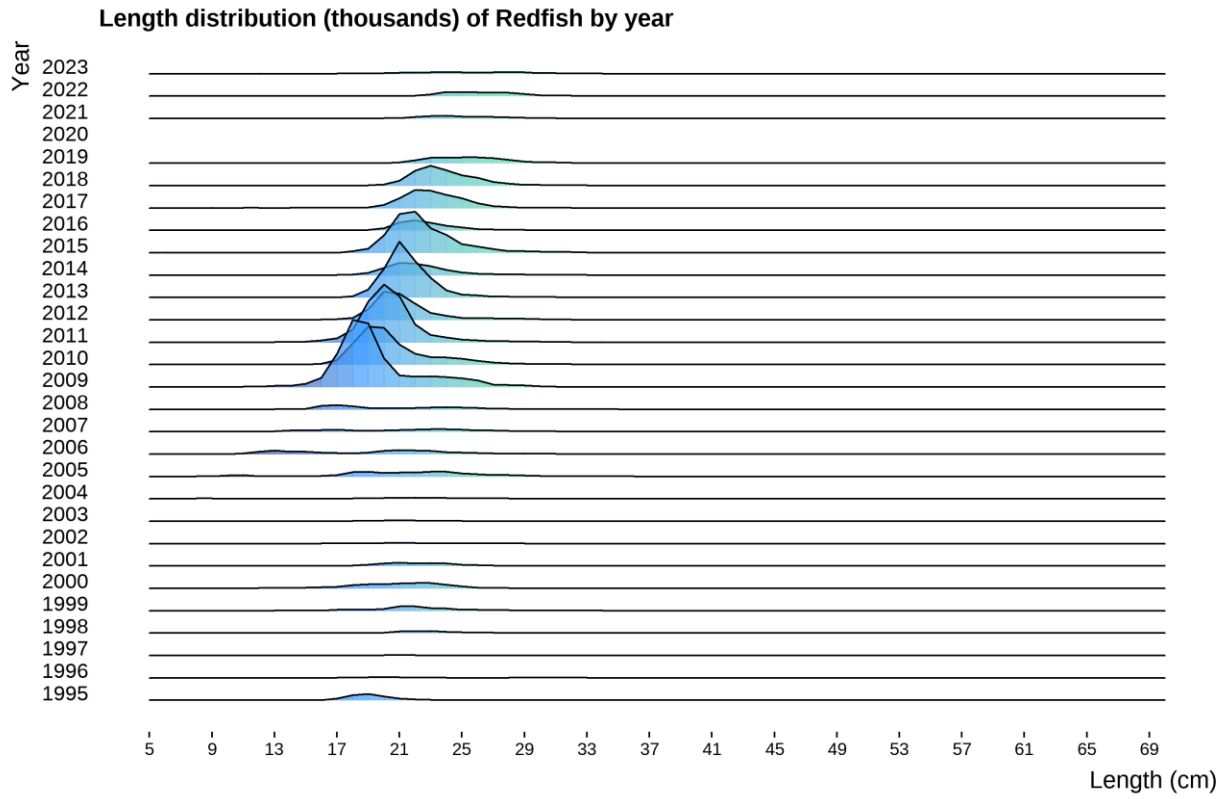

Figure 17. Redfish total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

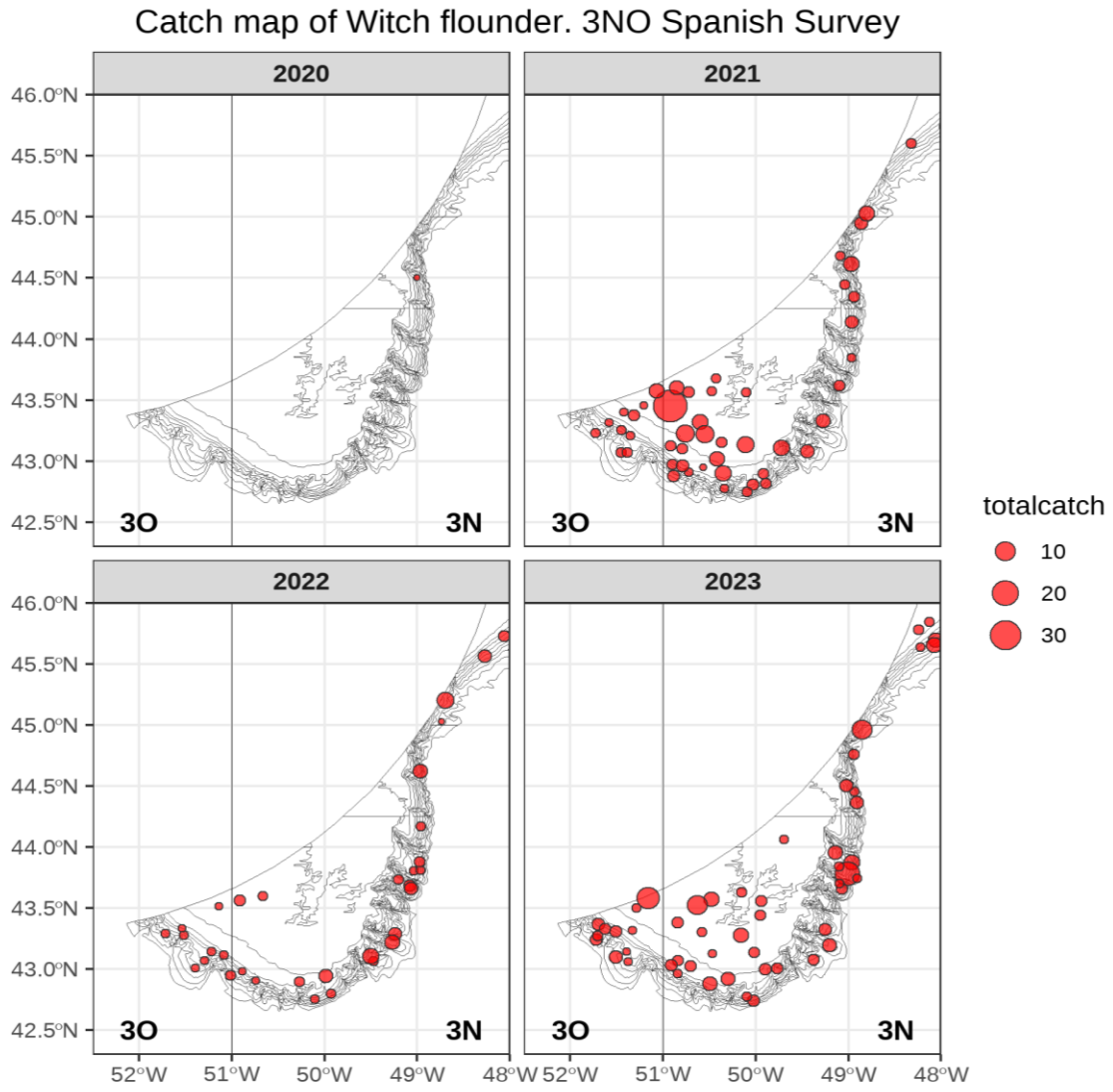

Figure 18. Witch flounder. Position of the hauls with catch in the last four years for the EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

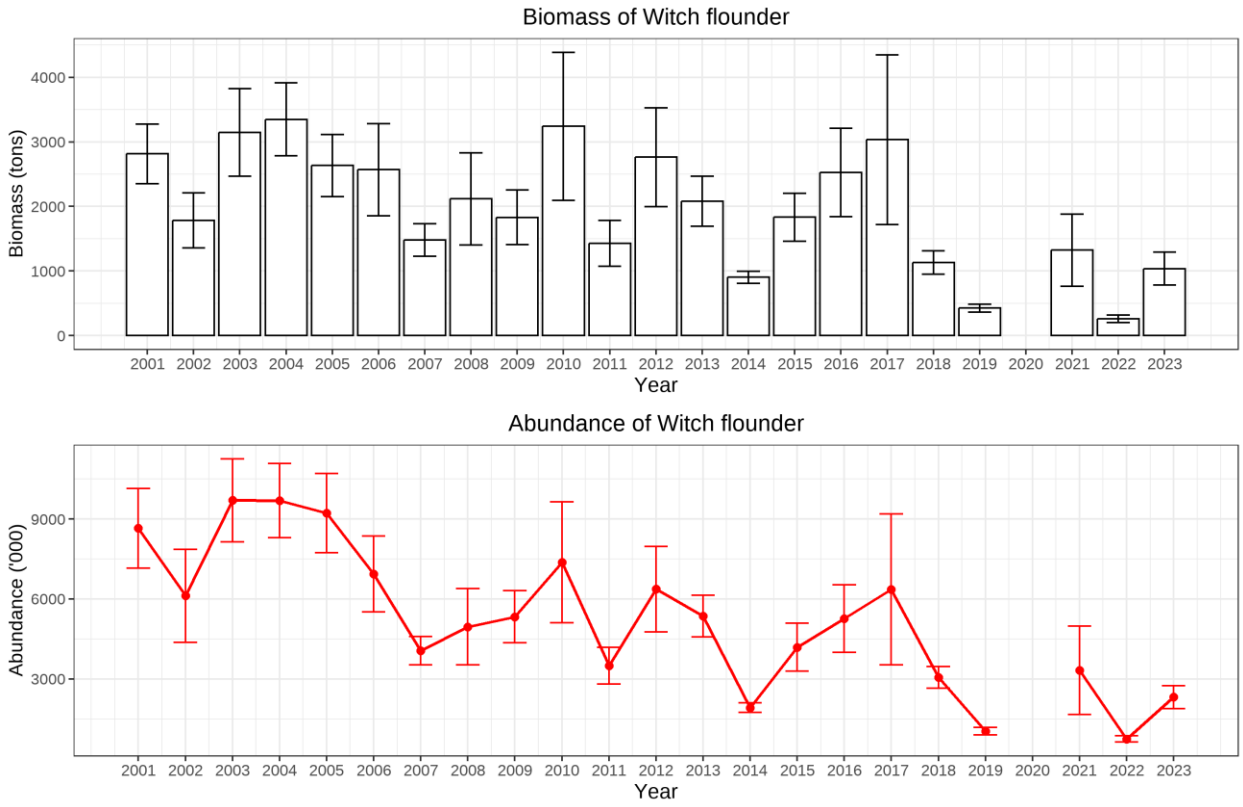

Figure 19. Witch flounder total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey. No survey was carried out in 2020.

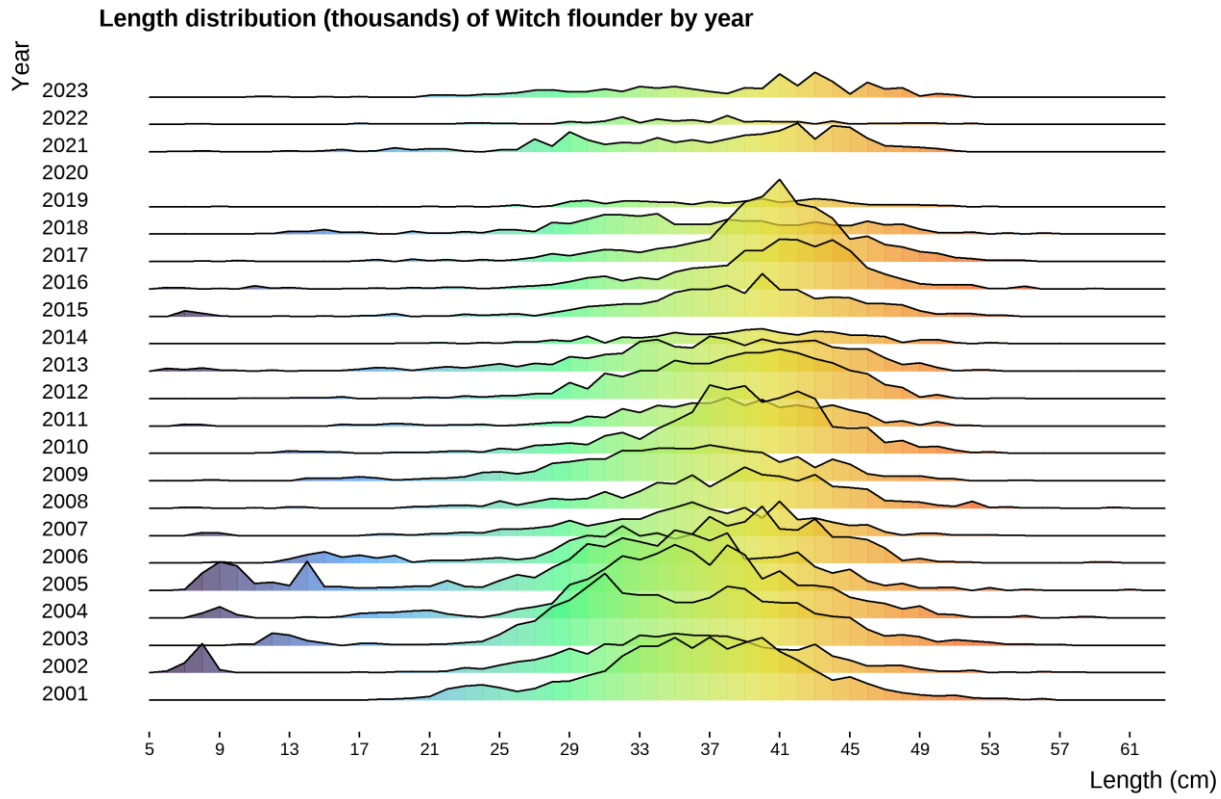

Figure 20. Witch flounder total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

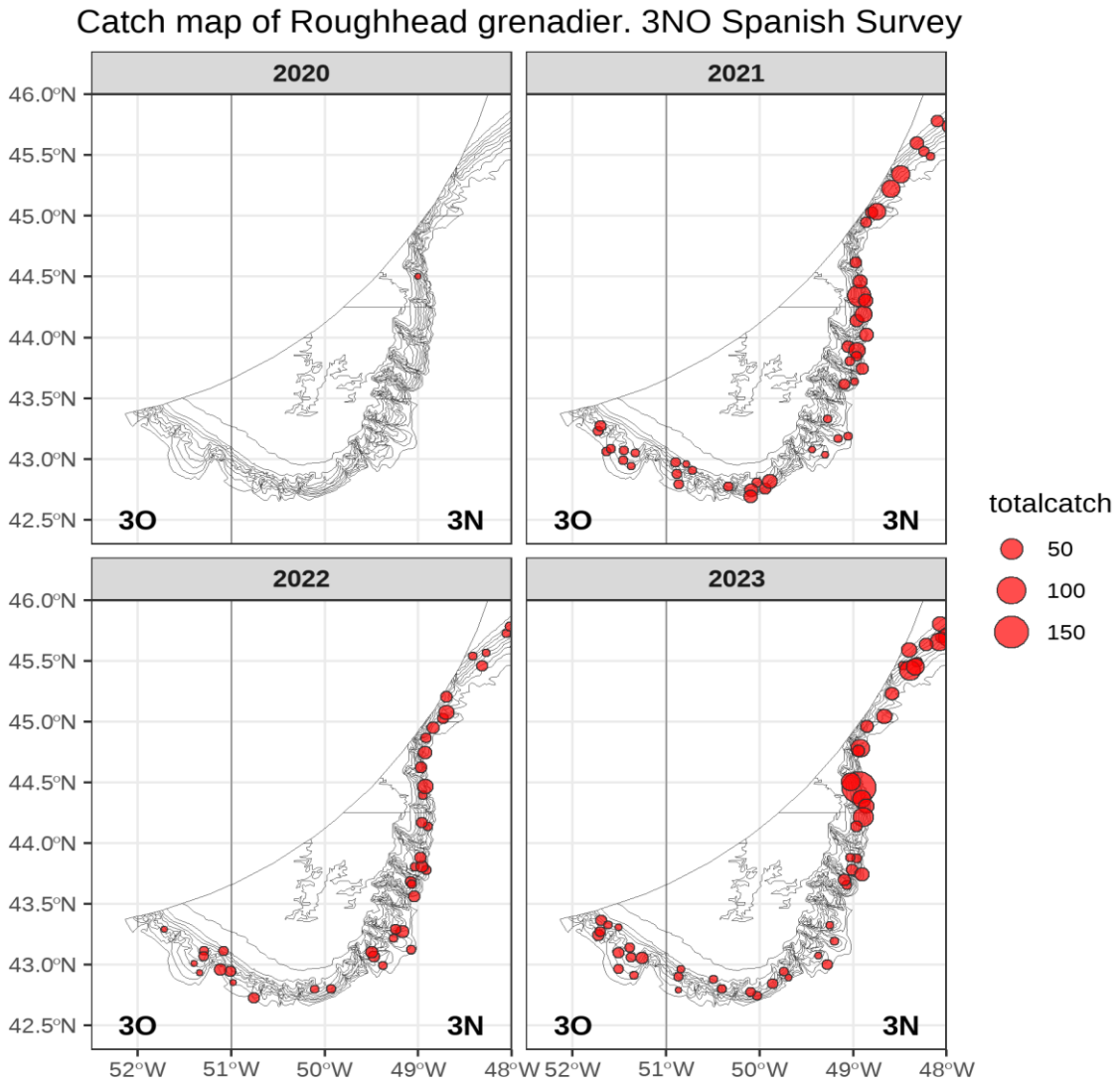

Figure 21. Roughhead grenadier. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey. No survey was carried out in 2020.

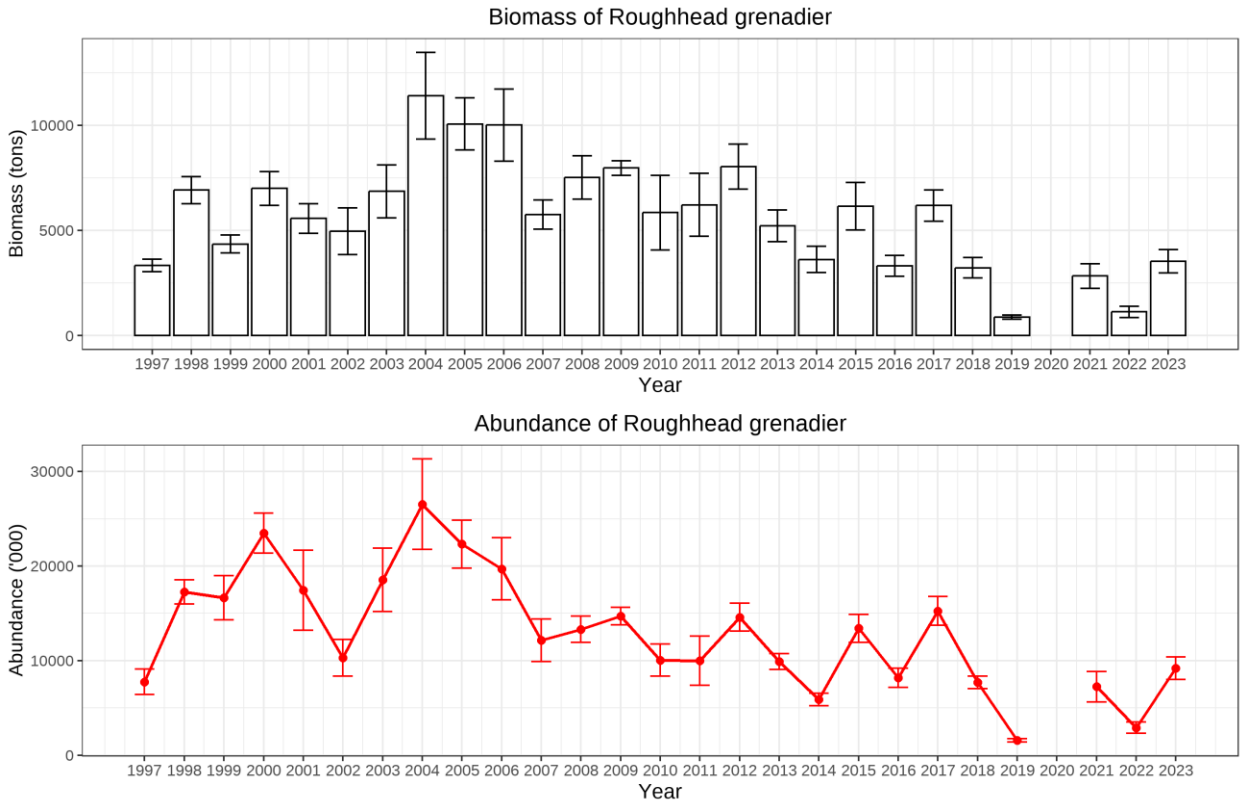

Figure 22. Roughhead grenadier total biomass (tons) and abundance (thousands) and SD by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

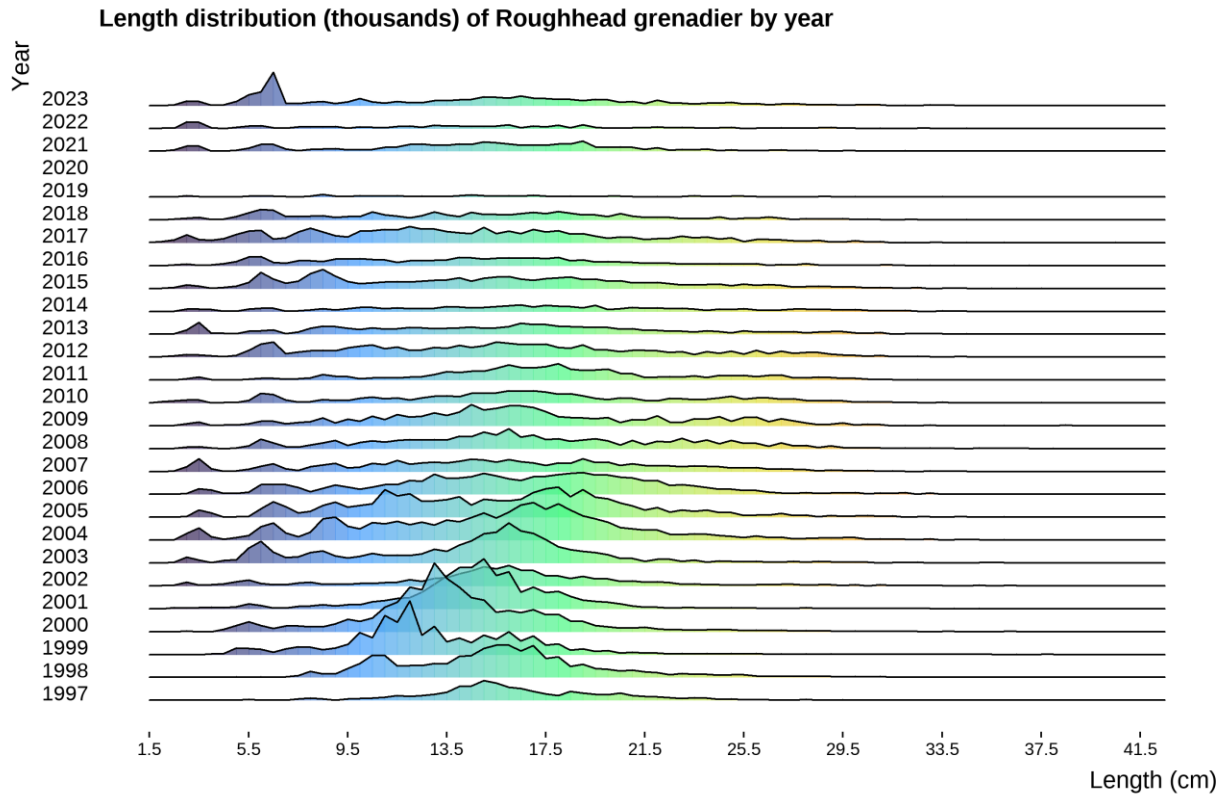

Figure 23. Roughhead grenadier total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

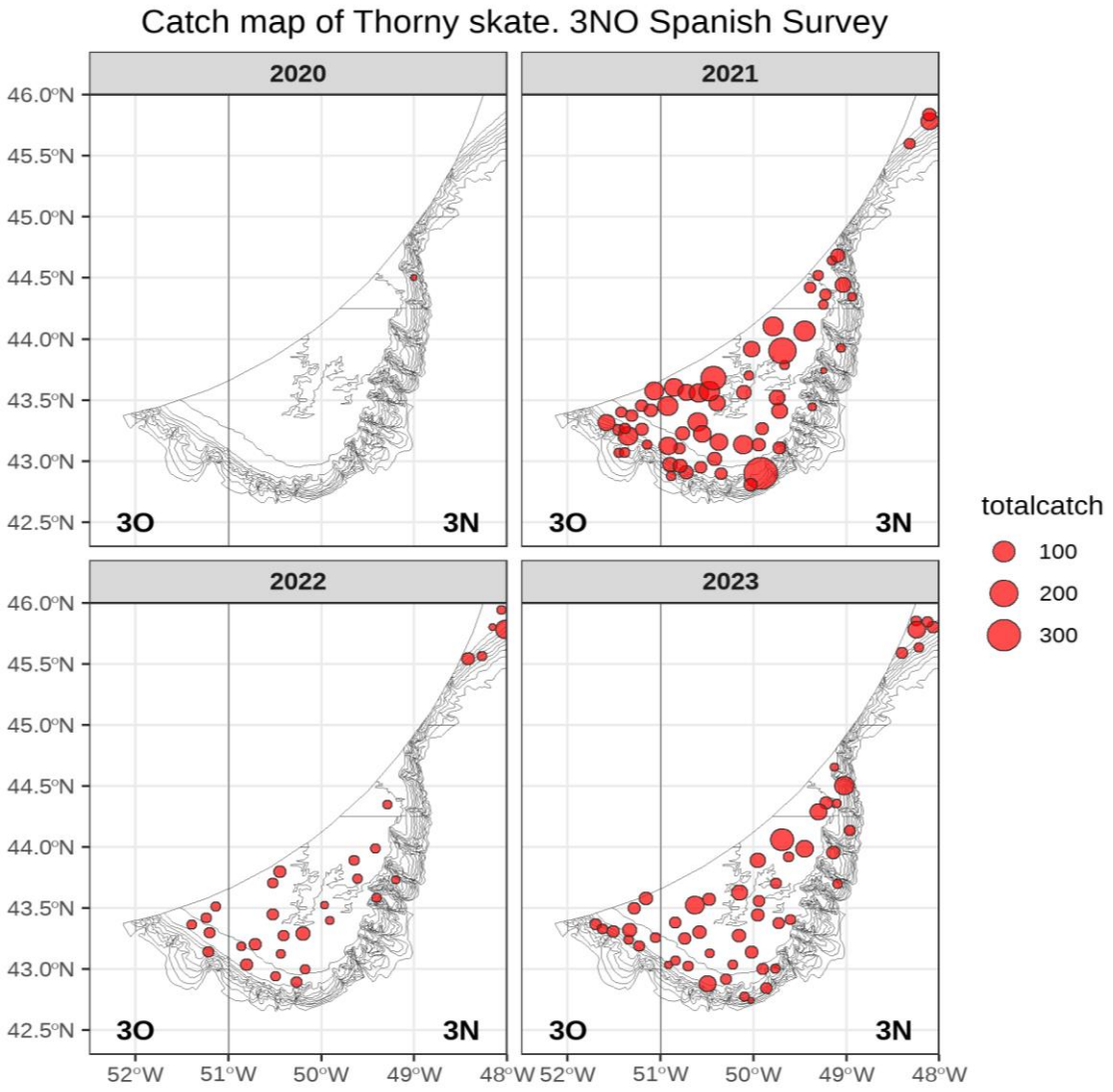

Figure 24. Thorny skate. Position of the hauls with catch in the last four years for the EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

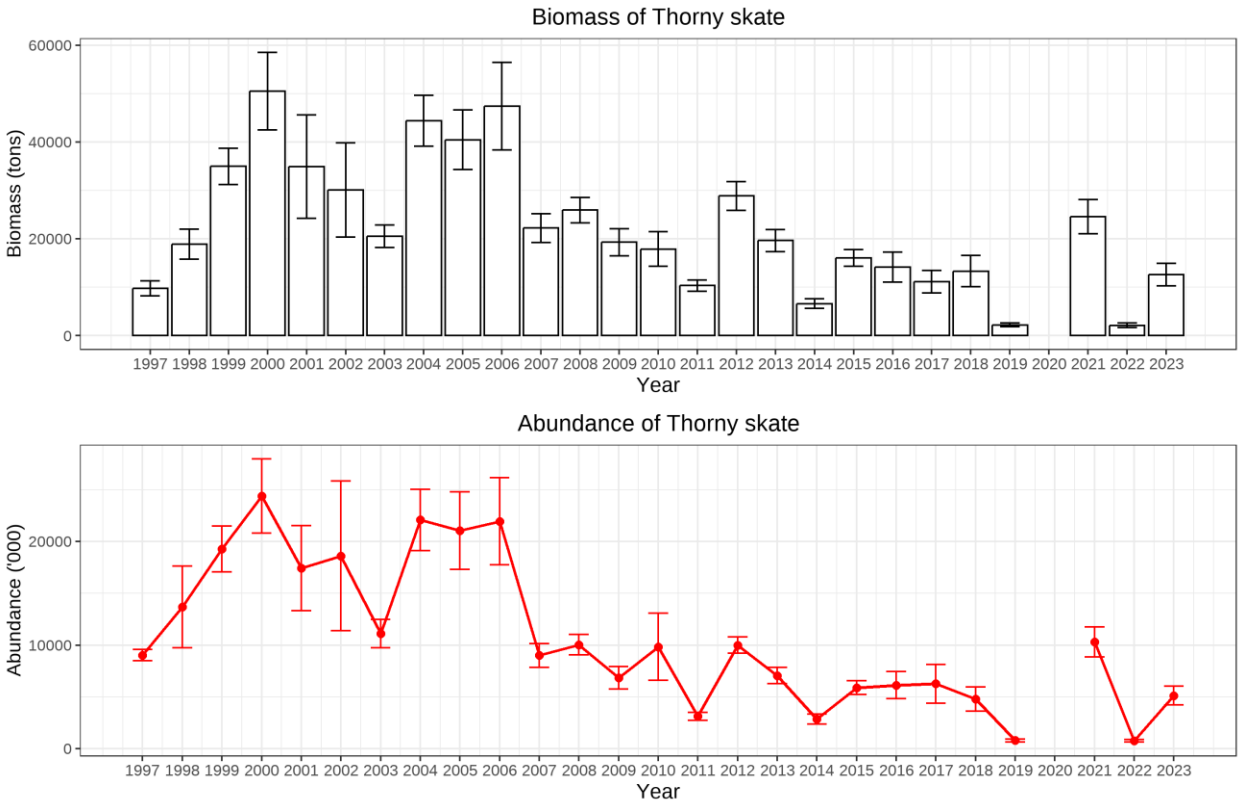

Figure 25. Thorny skate total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey. No survey was carried out in 2020.

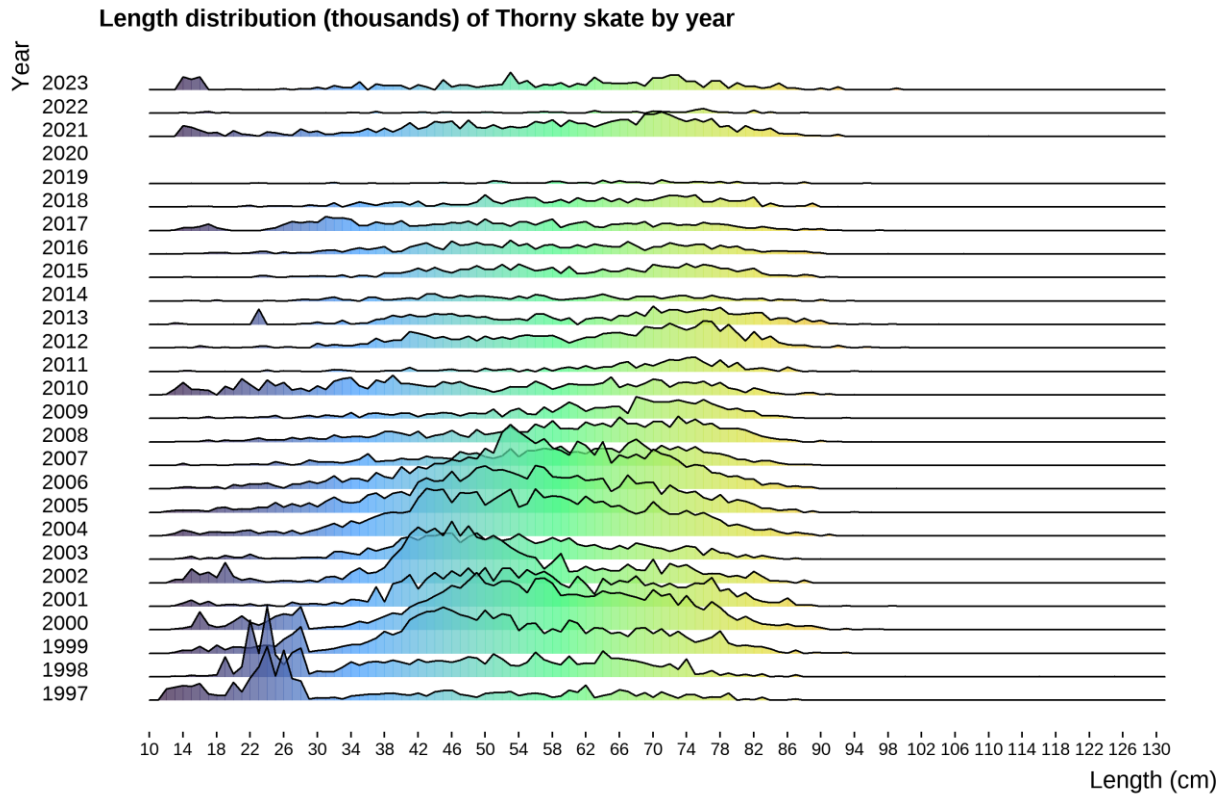

Figure 26. Thorny skate total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

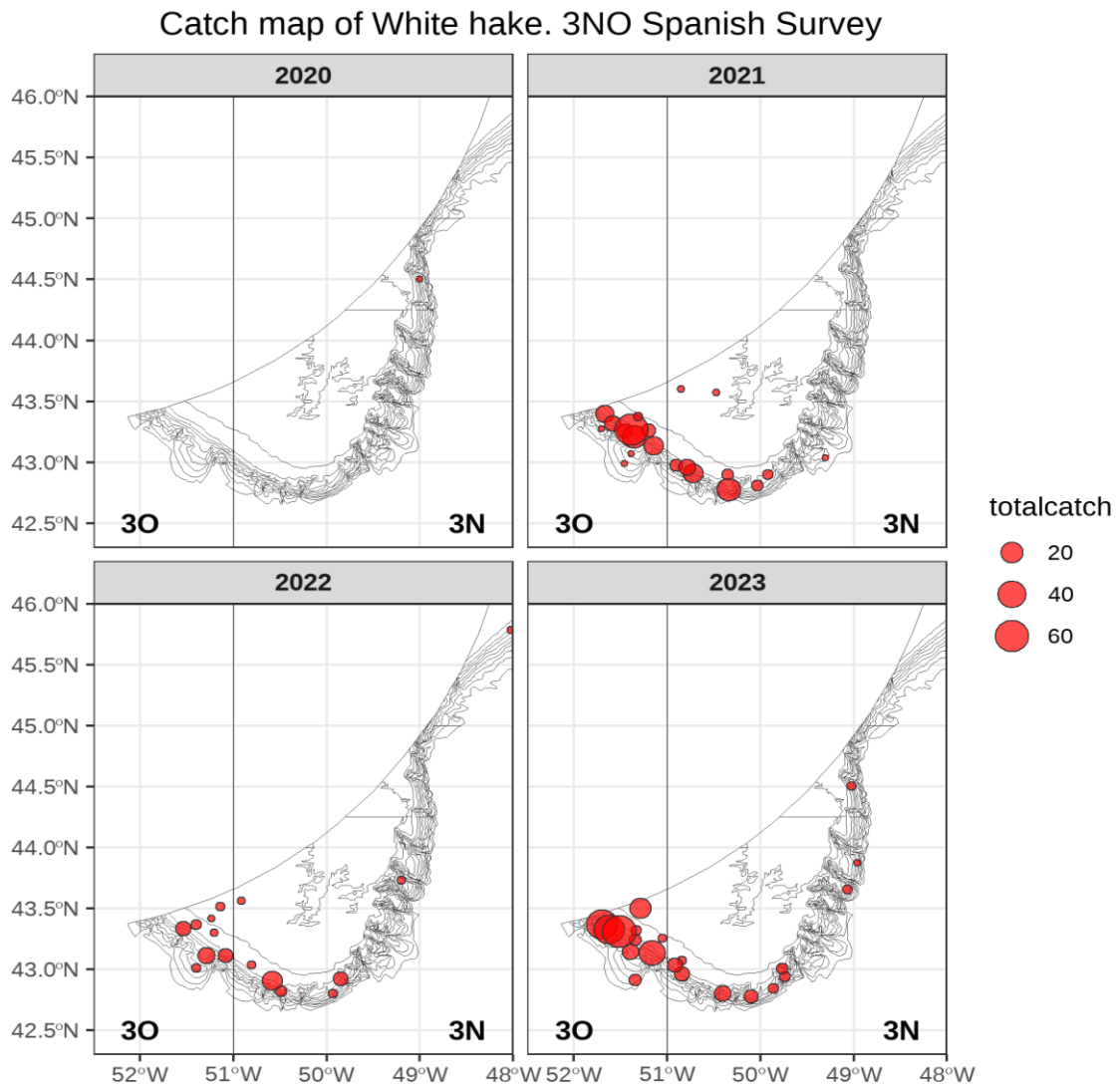

Figure 27. White hake. Position of the hauls with catch in the last four years for the EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

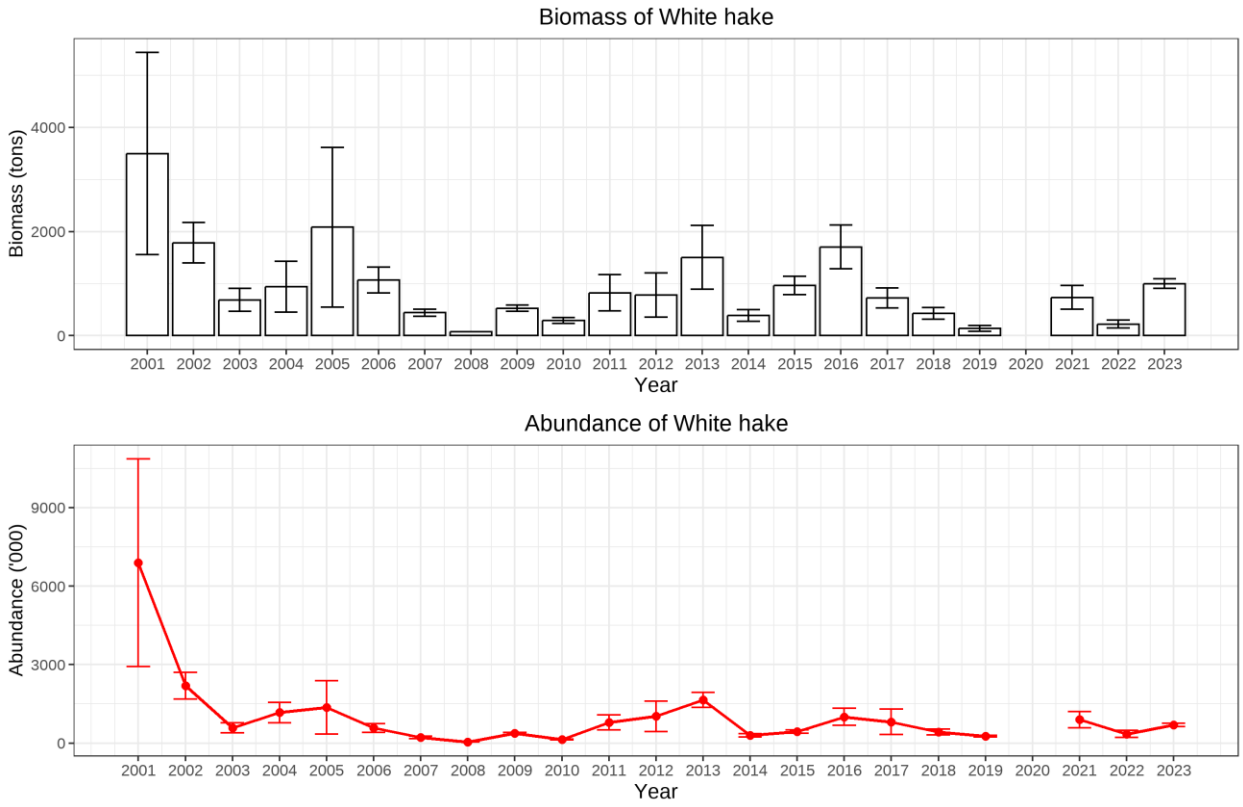

Figure 28. White hake total biomass (tons) and abundance (thousands) and SD by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

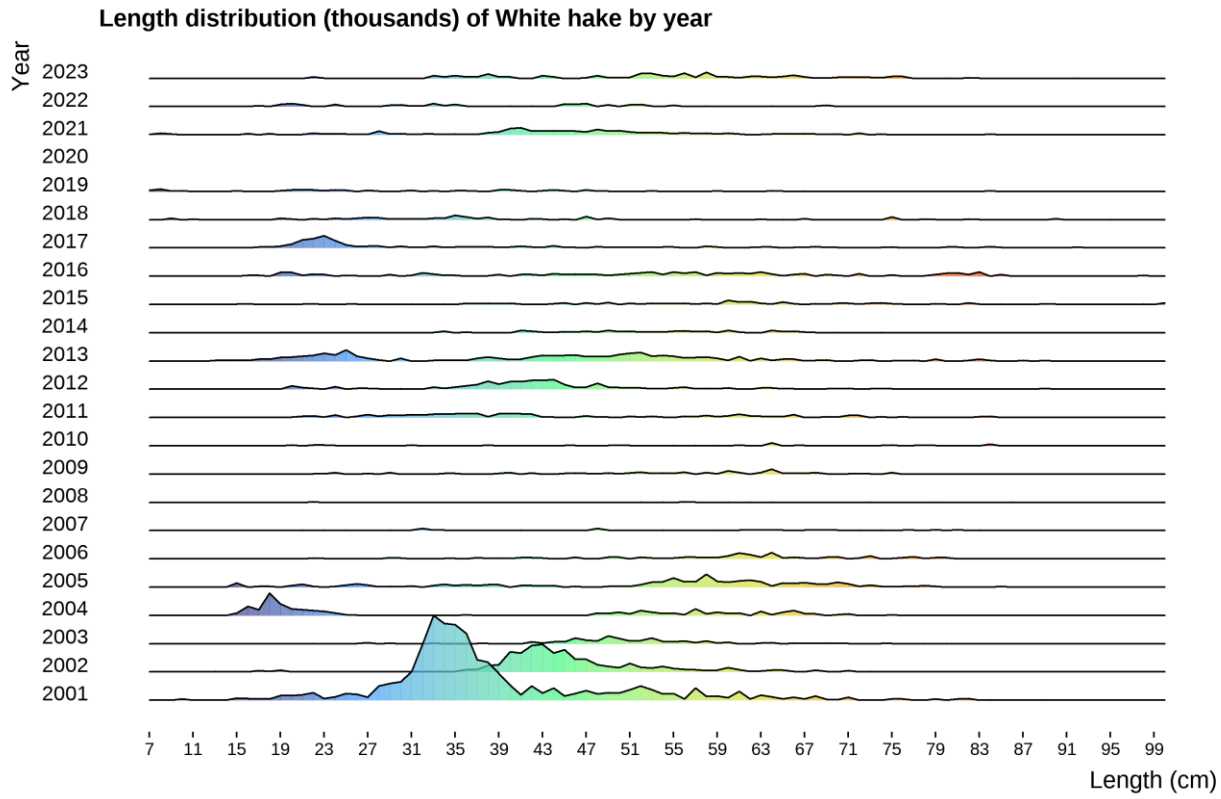

Figure 29. White hake total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

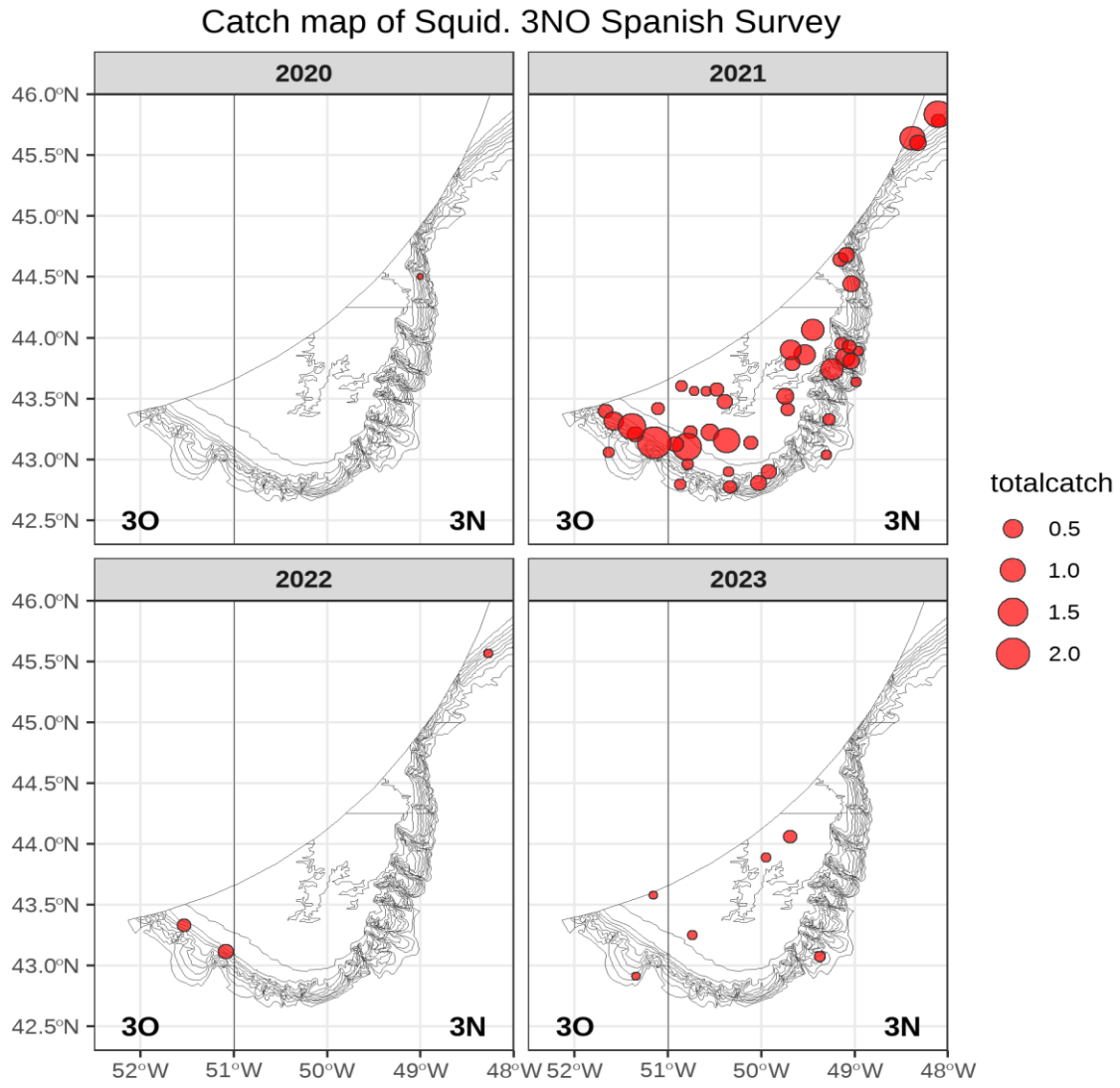

Figure 30. Squid. Position of the hauls with catch in the last four years for the EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

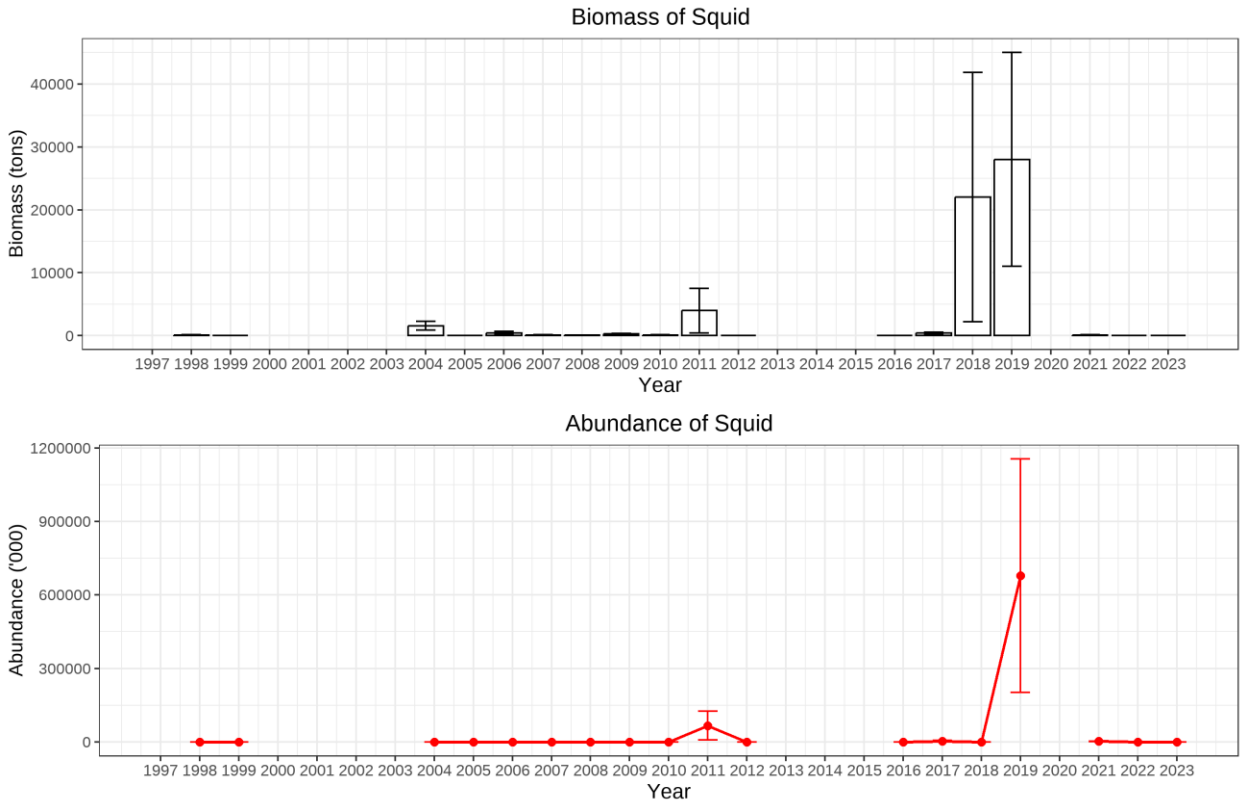

Figure 31. Squid total biomass (tons) and abundance (thousands) and SD by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

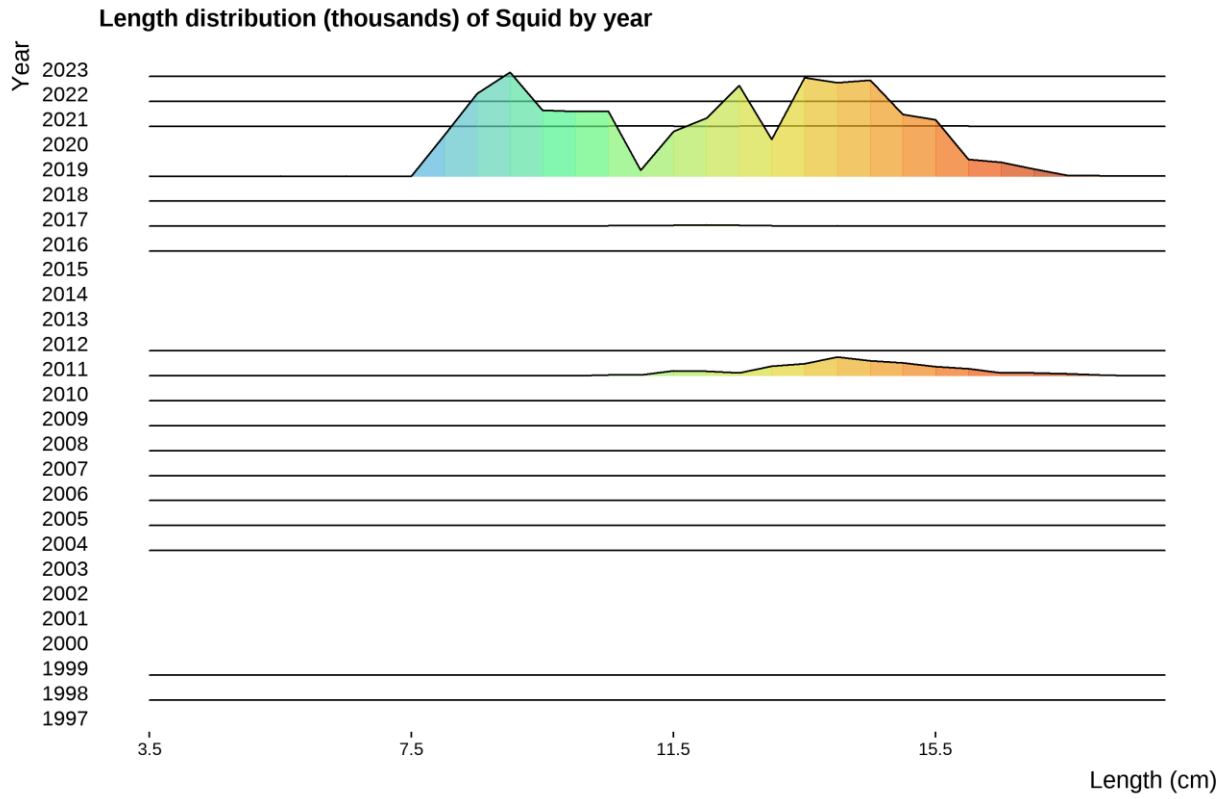

Figure 32. Squid total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

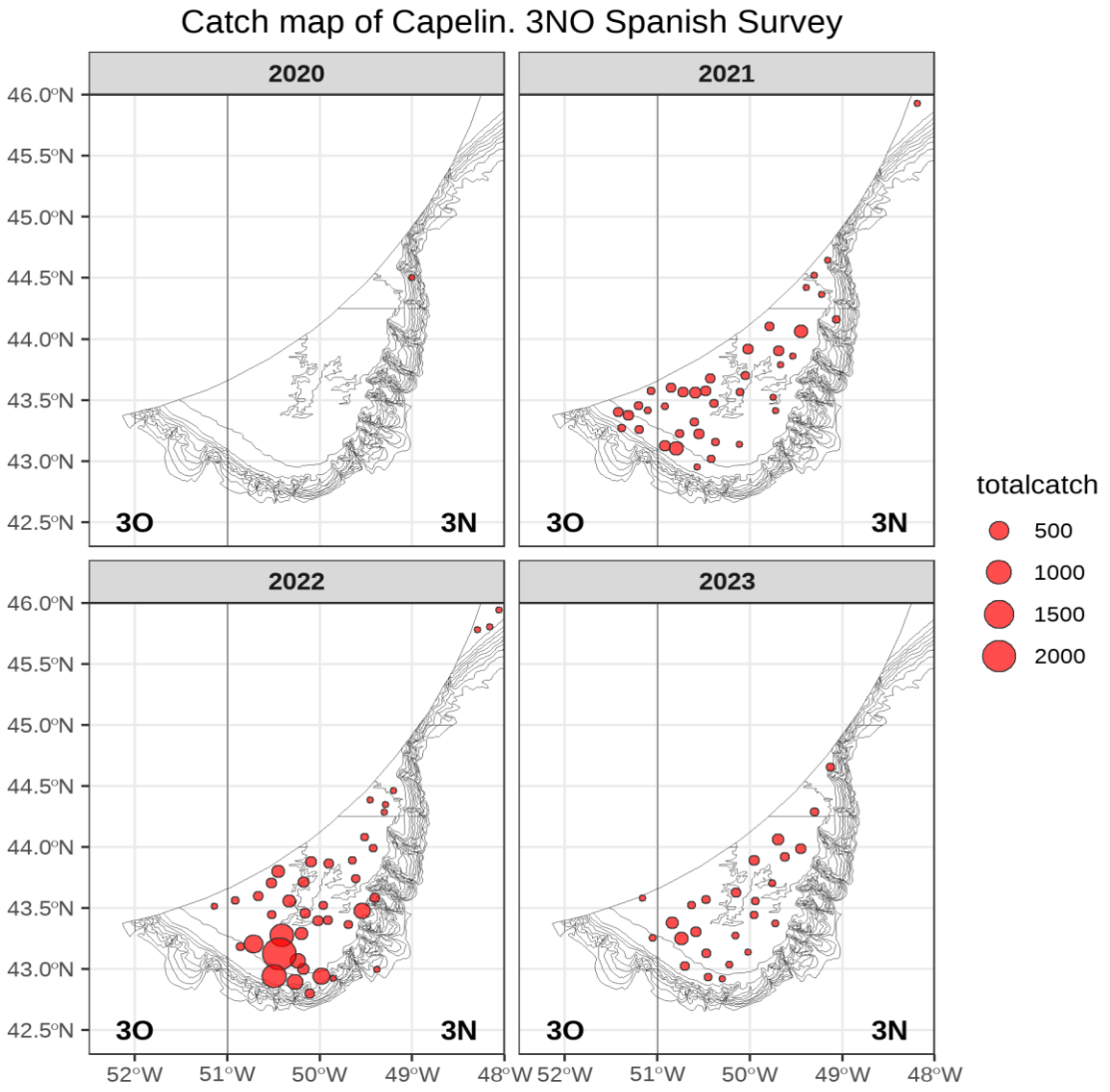

Figure 33. Capelin. Position of the hauls with catch in the last four years for the EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

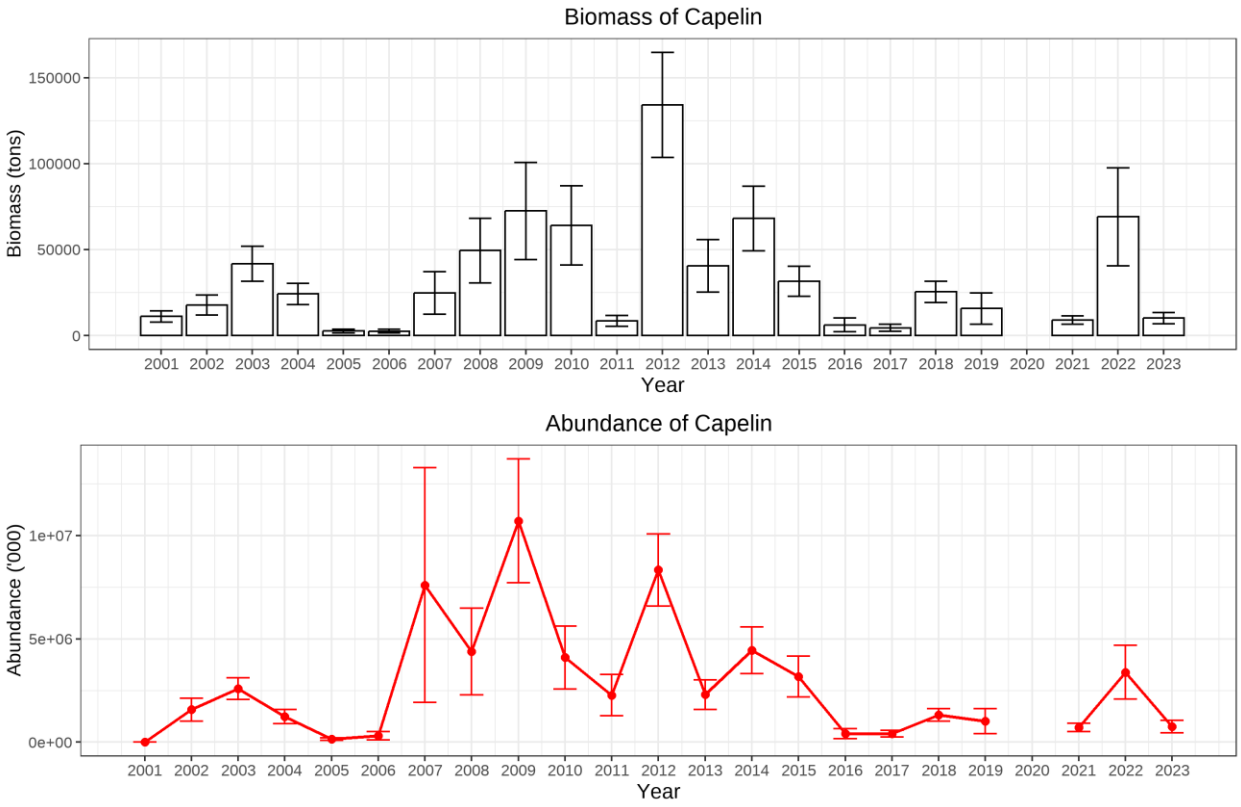

Figure 34. Capelin total biomass (tons) and abundance (thousands) and SD by year. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.

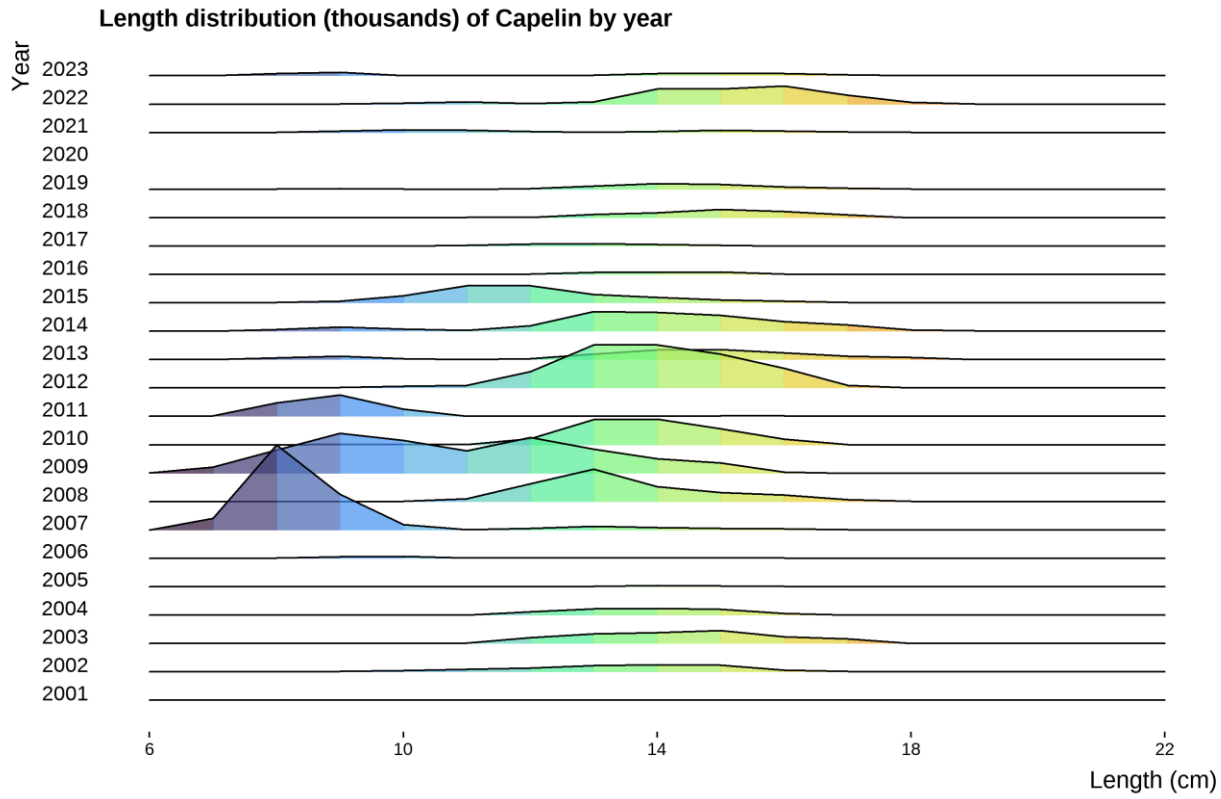

Figure 35. Capelin total length (cm) distribution. EU- Spain Divs. 3NO survey. No survey was carried out in 2020.