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Results of the Spanish survey in NAFO Div. 3NO

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Abstract

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 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 Spanish multi specific bottom trawl survey in NAFO Regulatory Area Div. 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. Table 2 shows the swept area and number of hauls by stratum of the last five years of survey. Figure 1 contains the map with the location of the hauls of the survey conducted in 2025. Table 3 presents by year the

total survey mean catch per tow 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.

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 of these species 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*. (2025).

Results

Greenland halibut

Figure 3 presents the map with the distribution of the catches of Greenland halibut in the EU-Spain Divs. 3NO survey 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 (2023-2025), a slight decreasing 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 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. Since 2023, both indices remain stable at low levels.

Length 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 main cohorts can be followed at different lengths before 2015. Since 2021, it seems possible to track the evolution of a low-abundance cohort.

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, 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). Between 2009 and 2014, 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 remain at very low levels since 2018.

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. In Table 13 the ALK for the last year is presented. 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, when the trend starts to decline. This decline hit the minimum in 2022, with values similar to those at the beginning of the series. Since then, an increasing trend 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. The mode at intermediate lengths has been very low from 2019 to 2022, increasing in parallel with the increase of abundance and biomass.

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, reaching the levels previous to 2009 in 2021, and remaining quite stable since then.

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. The last recruitment signal was observed in 2009 and can be tracked until 2019, but before and after that period the level is very low for all the length classes.

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. Both indices remained stable in recent years.

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 recruitment signals 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 2019 and 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. Nevertheless, in 2024 a steep increase has been observed, reaching the values of the maximum of the series in 2004. These levels are maintained in 2025.

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 mode of 10-11 cm in 1998 is easily followed until 2009. Since then, all the length classes were poor, specially the largest, and some signals of the smallest length ranges appear around 3 cm. In 2024 and 2025, the levels at small and intermediate lengths are moderate.

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. High values of the indices were observed during the period 2000 to 2006, showing since then a general downward trend and reaching the minimum of the series in 2019 and 2022. In 2024, the values of both, biomass and abundance hit the maximum of the series, well above those levels reached in year 2000. In 2025, both indices exhibited a decline, while remaining at high 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 was good in 1997, 2002, 2010 and quite good in 2021, 2023 and 2024. In 2019 and 2022, all the length ranges were very poorly represented, following the drop of the biomass and abundance. In 2024 and 2025, abundance across all age classes is at high level.

White hake

Figure 27 presents the maps with the distribution of the hauls catches 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 maximum values of the series were reached. Since 2023, both indices had an increasing trend, reaching the biomass in 2025 the second highest value in the series, while the peak in abundance is observed in 2024.

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 recruitment signals have been poor since then, although small recruitment events were detected in 2004, 2013 and 2017, with individuals between 16-26 cm. The increase in abundance observed in 2024 is also translated into the abundance by length classes, reaching levels not observed since the beginning of the series.

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 intermediate levels in 2022 but decreasing again in 2023. The abundance index is similar, although the maximum was reached in 2009. In 2024, both indices increase again to intermediate-high levels, and reaching a level of biomass in 2025 close to its maximum in 2012.

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 recruitment signals are observed in 2007, 2009 and 2011. The effects of these recruitments seem to disappear in 2015. Since then, all the length classes are poor until 2022, when a good signal of abundance at intermediate lengths was observed. This signal was not observed in 2023, but is observed again in 2024 and 2025.

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Table 1. Spanish spring bottom trawl survey in NAFO Div. 3NO.

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
2024	R/V Vizconde de Eza	113	45-1460	June 13-July 01
2025	R/V Vizconde de Eza	113	45-1450	June 14-July 04

(*) 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 Spanish Spring survey in NAFO Div. 3NO. Swept area in square miles.

			2021		2022		2023		2024		2025	
Stratum	**Division**	**Area**	**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	0.0398	3	0.039	2	0.0225	3	0.0338	3	0.0345
354	**3O**	**246**	3	0.0386	3	0.0386	2	0.0225	3	0.033	3	0.0353
355	**3O**	**74**	2	0.0251	2	0.0251	2	0.0229	2	0.0225	2	0.0247
356	**3O**	**47**	2	0.0262	2	0.0251	2	0.0229	2	0.0225	2	0.0244
357	**3N**	**164**	2	0.0247	2	0.0244	2	0.0225	2	0.0112	2	0.0248
358	**3N**	**225**	3	0.0379	3	0.039	3	0.0349	3	0.0345	3	0.0356
359	**3N**	**421**	5	0.0638	5	0.0641	5	0.0566	5	0.057	5	0.0604
360	**3N**	**2,783**	17	0.2156	17	0.2201	13	0.1481	17	0.1954	17	0.2055
374	**3N**	**214**	2	0.027	2	0.0259	2	0.0259	2	0.0232	2	0.0232
375	**3N**	**271**	3	0.0401	3	0.0386	2	0.0244	3	0.0349	3	0.0356
376	**3N**	**1,334**	8	0.1042	8	0.1009	6	0.0701	8	0.093	8	0.0949
377	**3N**	**100**	2	0.0255	2	0.0255	2	0.0232	2	0.0232	2	0.0236
378	**3N**	**139**	2	0.0259	2	0.0255	2	0.0236	2	0.0221	2	0.0225
379	**3N**	**106**	2	0.024	2	0.0244	2	0.0225	2	0.0225	2	0.0232
380	**3N**	**96**	2	0.0247	2	0.0251	2	0.0232	2	0.0225	2	0.0225
381	**3N**	**144**	2	0.0262	2	0.0259	2	0.0247	2	0.0232	2	0.0221
382	**3N**	**343**	4	0.0517	4	0.0525	3	0.0375	4	0.0454	4	0.045
721	**3O**	**65**	2	0.0251	2	0.0225	2	0.0236	2	0.0232	2	0.024
722	**3O**	**84**	2	0.0251	2	0.024	2	0.0229	2	0.0229	2	0.0236
723	**3N**	**155**	2	0.0247	2	0.0251	2	0.0229	2	0.0221	2	0.0232
724	**3N**	**124**	2	0.0229	2	0.0255	2	0.0225	2	0.0225	2	0.0236
725	**3N**	**105**	2	0.0244	2	0.024	2	0.0236	2	0.0225	2	0.0229
726	**3N**	**72**	2	0.024	2	0.024	2	0.024	2	0.0221	2	0.0229
727	**3N**	**96**	2	0.0262	2	0.0259	2	0.0232	2	0.0229	2	0.0232
728	**3N**	**78**	2	0.0259	2	0.0236	2	0.0232	2	0.0225	2	0.0232
752	**3N**	**131**	2	0.0251	2	0.0217	2	0.0236	2	0.0229	2	0.0232
753	**3N**	**138**	2	0.0225	2	0.0247	2	0.0221	2	0.0203	2	0.0217
754	**3N**	**180**	2	0.0225	2	0.0214	2	0.0229	2	0.0203	2	0.0221
755	**3N**	**385**	2	0.0225	2	0.0225	2	0.0225	2	0.0214	2	0.0225
756	**3N**	**101**	2	0.024	2	0.0225	2	0.024	2	0.0221	2	0.0232
757	**3N**	**102**	2	0.0232	2	0.0217	2	0.0236	2	0.0225	2	0.0236
758	**3N**	**99**	2	0.024	2	0.0221	2	0.0248	2	0.0229	2	0.0225
759	**3N**	**127**	2	0.0236	2	0.0236	2	0.0236	2	0.0206	2	0.0221
760	**3N**	**154**	2	0.0247	2	0.0221	2	0.0229	2	0.0221	2	0.0232
761	**3N**	**171**	2	0.0255	2	0.0244	2	0.0221	2	0.0229	2	0.0232
762	**3N**	**212**	2	0.0232	2	0.0221	2	0.0232	2	0.0229	2	0.0232
763	**3N**	**261**	3	0.0367	3	0.0334	3	0.0341	3	0.0334	3	0.0341
764	**3O**	**100**	2	0.0251	2	0.0229	2	0.0229	2	0.0229	2	0.024
765	**3O**	**124**	2	0.0232	2	0.0229	2	0.0232	2	0.0221	2	0.0225
766	**3O**	**144**	2	0.024	2	0.0225	2	0.0225	2	0.0229	2	0.0229
767	**3O**	**158**	2	0.0232	2	0.0229	2	0.0225	2	0.0225	2	0.0232

Table 3. Percentage of catches for category by year and mean catch per tow by year. Spanish Spring survey in NAFO Div. 3NO.

	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	26	4.4	14	42	1.9	0.2	7.9	0	0	0.3	1.88	0.02	0	0	0	342	26
1996	9.7	29	3	30	7.5	2.9	1.3	14	0	0	0	3.28	0	0	0	0	515	58
1997	21	21	2.4	23	2.8	1.9	5.7	10	0	0	0.3	12.38	0	0	0	0	502	64
1998	14	19	6.6	26	13	1.8	3.7	7.8	0	0	0.1	6.86	0.08	0.02	0	0	1,136	141
1999	11	19	1	29	21	1.5	2.1	8.4	0	0	0	6.37	0.52	0.04	0	0.01	1,568	179
2000	7.4	24	1.7	18	18	2.2	3	9.8	0	0	0.2	10.95	5.04	0.02	0	0.18	1,782	210
2001	0.6	20	6	28	31	1.1	0.2	5.9	1.27	0	2.7	3.41	0.79	0.03	0	0	702	58
2002	1	21	6.3	32	6.3	0.9	2	9.6	1.41	0	5.1	6.93	2.4	0.33	0	4.99	357	45
2003	1.5	28	1.7	22	6.9	1.2	2	5.3	0.41	0	9.3	8.63	1.47	0.37	0	11.47	428	51
2004	1	22	0.9	24	11	0.8	3.2	7.4	0.25	0.4	3.6	19.1	2.1	0.28	0	4.2	530	64
2005	0.7	16	1	18	36	0.5	2.2	5.3	0.46	0	0.3	11.68	1.02	0.27	0	6.6	673	80
2006	0.6	22	5.1	19	27	0.4	2.3	6.6	0.24	0.1	0.3	7.91	1.02	0.17	0	7.07	660	79
2007	0.9	17	3	21	30	0.4	1.4	3.5	0.1	0	4	13.78	0.72	0.06	0	4.12	664	73
2008	1.4	21	4.6	17	18	0.4	1.4	3.4	0.03	0	7.7	9.73	0.41	0.11	0	14.36	690	84
2009	1.1	6.6	5.4	9.5	58	0.2	0.6	1.4	0.07	0	5.1	4	0.35	0.03	0.02	7.44	1,572	171
2010	1.6	6.8	9.2	9.2	61	0.3	0.7	1.2	0.05	0	3.7	3.06	0.3	0.05	0.06	3.21	1,425	135
2011	0.7	8.9	9.4	12	59	0.1	0.7	0.9	0.1	0.4	0.6	4.83	0.41	0.09	0.05	1.42	1,327	162
2012	0.9	11	10	14	39	0.3	1	2.3	0.17	0	11	7.07	0.25	0.03	0	3.44	1,065	130
2013	0.6	10	3.8	12	55	0.3	0.6	1.6	0.19	0	2.4	7.54	0.25	0.03	0	5.39	1,170	143
2014	0.9	8.5	21	13	38	0.2	0.6	0.9	0.1	0	8.1	6.64	0.26	0.05	0	2.11	913	111
2015	0.9	7.6	8.1	8.1	61	0.2	0.7	1.4	0.14	0	2.3	6.36	0.23	0.04	0	3.08	1,261	154
2016	2.2	6	8.9	19	38	0.7	0.9	3.5	0.63	0	1.4	11.76	0.47	0.07	0.02	7.11	518	60
2017	3.3	3.4	6.4	8.9	59	0.6	1.3	2.2	0.22	0.1	0.7	10.18	0.29	0.09	0	2.77	708	80
2018	1.5	5	1.9	9.2	60	0.2	0.6	1.8	0.1	2.4	3.1	10.76	1.04	0.05	0.05	1.79	726	83
2019	2.4	3.2	1.4	5.8	57	0.1	0.3	0.6	0.05	6.1	4.5	15.61	0.76	0.12	0.01	1.79	517	59
2021	3.1	8.9	5.7	8.6	36	0.4	1.4	6.7	0.49	0	2.2	21.33	0.74	0.33	0.04	4.56	346	39
2022	3.2	2.2	0.8	2.6	52	0.1	0.4	0.6	0.1	0	13	20.83	0.98	0.11	0	3.67	434	49
2023	4	8	1.9	11	36	0.3	1.6	2.4	0.67	0	1.4	29.54	0.5	0.23	0	3.14	386	40
2024	1.9	6.1	4.2	9.1	27	0.3	3	12	0.79	0	11	18.65	0.76	0.17	0.92	5.15	604	68
2025	1.5	5.7	1.3	11	25	0.3	3	7	0.76	0	15	21.27	0.95	0.15	2	5.47	588	66
Mean Percentage	**3.4**	**14**	**4.9**	**16**	**34**	**0.8**	**1.6**	**5**	**0.29**	**0.3**	**3.9**	**10.74**	**0.8**	**0.11**	**0.11**	**3.82**		

Table 4. Length-weight relationship for the main species by year. Spanish Spring survey in NAFO Divs. 3NO.

		2021	2022	2023	2024	2025
American plaice	**a**	**0.0042**	**0.0043**	**0.0032**	**0.0038**	**0.0037**
	b	**3.1912**	**3.1801**	**3.2620**	**3.2215**	**3.2151**
	R^2	0.99	0.98	0.98	0.97	0.98
	N	1208	1208	970	2341	2387
Atlantic cod	**a**	**0.0060**	**0.0053**	**0.0058**	**0.0077**	**0.0069**
	b	**3.0698**	**3.1040**	**3.0861**	**3.0099**	**3.0299**
	R^2	0.99	0.98	0.97	0.97	0.98
	N	912	490	691	1463	874
Capelin	**a**	**0.0009**	**0.0006**	**0.0007**	**0.0028**	**0.0071**
	b	**3.6069**	**3.7037**	**3.7060**	**3.1966**	**2.8735**
	R2	0.94	0.86	0.94	0.68	0.71
	N	1043	1333	513	1497	1186
Greenland halibut	**a**	**0.0038**	**0.0040**	**0.0036**	**0.0047**	**0.0048**
	b	**3.1742**	**3.1697**	**3.1943**	**3.1206**	**3.1235**
	R^2	0.99	0.99	0.99	0.97	0.99
	N	1323	1585	1024	1570	1404
Redfish	**a**	**0.0093**	**0.0082**	**0.0099**	**0.0096**	**0.0098**
	b	**3.1070**	**3.1427**	**3.0825**	**3.0804**	**3.0758**
	R^2	0.98	0.98	0.98	0.97	0.97
	N	1240	1042	824	1357	1501
Roughhead grenadier	**a**	**0.0798**	**0.0645**	**0.0712**	**0.1008**	**0.1182**
	b	**2.9814**	**3.0562**	**3.0275**	**2.9281**	**2.8597**
	R^2	0.98	0.99	0.98	0.98	0.97
	N	935	440	982	1858	1711
Squid	**a**	**0.036**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
	b	**2.734**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
	R^2	0.89	0.00	0.00	0.00	0.00
	N	314	0	0	0	0
Thorny skate	**a**	**0.0051**	**0.0054**	**0.0050**	**0.0083**	**0.0103**
	b	**3.1487**	**3.1389**	**3.1621**	**3.0404**	**2.9853**
	R^2	0.99	0.98	0.99	0.98	0.98
	N	990	98	394	1683	1348
White hake	**a**	**0.0037**	**0.0038**	**0.0021**	**0.0026**	**0.0041**
	b	**3.1533**	**3.1535**	**3.3028**	**3.2577**	**3.1429**
	R^2	0.98	0.99	0.97	0.97	0.99
	N	168	63	156	219	294
Witch flounder	**a**	**0.0023**	**0.0014**	**0.0008**	**0.0009**	**0.0016**
	b	**3.2726**	**3.3991**	**3.5371**	**3.5104**	**3.3701**
	R^2	0.97	0.98	0.97	0.96	0.96
	N	312	141	274	582	431
Yellowtail flounder	**a**	**0.0057**	**0.0046**	**0.0049**	**0.0043**	**0.0045**
	b	**3.1082**	**3.1677**	**3.1344**	**3.1760**	**3.1619**
	R^2	0.98	0.97	0.97	0.92	0.94
	N	990	985	670	1488	1489

Table 5. Biomass (t) of Greenland halibut by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353	174	42	86	110	126
354	67	8	7	10	0
355	3	7	4	81	1
356	12	0	4	5	5
357	26	18	37	1	3
358	52	10	212	112	7
359	45	145	79	37	16
360	186	148	438	43	132
374					
375		0			
376					
377	2	0	19	0	8
378	1	2	5		0
379	11	9	3	2	1
380	246	180	237	139	190
381	254	54	513	203	211
382	65	1	0	0	
721	13	5	13	22	15
722	263	3	222	126	37
723	115	23	24	50	73
724	44	100	153	232	161
725	45	21	80	71	15
726	109	113	151	194	58
727	110	354	618	430	330
728	248	223	231	303	111
752	344	959	345	251	226
753	157	165	195	94	156
754	219	297	425	636	93
755	806	779	1,485	629	421
756	330	516	221	190	316
757	198	1,003	606	495	215
758	100	377	242	183	467
759	252	625	460	270	135
760	433	511	507	521	266
761	374	874	751	158	267
762	379	300	251	277	347
763	322	609	232	514	507
764	150	284	419	305	404
765	255	136	215	183	163
766	380	289	137	297	205
767	104	68	161	217	17
Biomass	6,893	9,258	9,789	7,390	5,704
SD_B	542	1,196	1,150	666	492
MWPT	8.09	10.28	10.93	7.92	6.34
SD_MWPT	0.64	1.29	1.15	0.68	0.56
Abundance	16,490	17,023	17,916	11,191	10,462
SD_A	2,781	2,790	3,288	1,099	1,530

Table 6. Greenland halibut abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
6	7	0	0	0	0
8	0	0	0	0	0
10	20	16	18	62	45
12	392	303	198	232	418
14	1,094	809	255	296	1565
16	729	293	61	24	533
18	837	227	254	33	98
20	1,627	330	1,038	87	278
22	2,384	389	1,226	143	523
24	1,267	905	665	110	469
26	483	993	576	122	235
28	279	642	637	221	112
30	324	822	1,181	493	181
32	417	1,028	1,282	664	169
34	454	1,077	1,282	778	265
36	572	816	1,116	1,029	331
38	604	1,040	1,135	1,084	582
40	707	1,174	1,170	1,007	666
42	628	1,011	999	820	498
44	621	1,119	1,038	744	548
46	586	913	722	686	571
48	499	581	625	475	630
50	402	575	625	509	408
52	244	437	313	302	341
54	344	430	301	311	198
56	184	254	254	225	274
58	189	233	223	162	68
60	248	196	208	136	114
62	56	99	175	113	69
64	135	123	67	80	81
66	58	49	42	64	37
68	19	62	101	61	47
70	7	10	36	42	46
72	7	13	19	36	6
74	10	15	32	17	8
76	15	12	7	0	27
78	6	22	5	0	0
80	3	0	0	0	14
82	5	0	4	5	7
84	7	7	0	6	0
86	0	0	10	0	0
88	0	0	17	0	0
90	0	0	0	0	0
92	0	0	0	0	0
94	3	0	0	8	0
96	0	0	0	0	0
98	0	0	0	0	0
100	17	0	0	0	0
102	0	0	0	0	0
104	0	0	0	0	0
Total	16,490	17,023	17,916	11,191	10,462
Biomass(t)	6,893	9,258	9,789	7,390	5,704
B/SOP(%)	103	101	104	103	101
Nsamples	86	83	78	73	72
Nindiv	2,840	3,187	3,012	2,030	1,832
Minlen	7	11	11	10	11
Maxlen	101	84	88	94	82
Sampledcatch(kg)	1,207	1,591	1,602	1,262	999
Totalcatch(kg)	1,207	1,591	1,602	1,262	999

Table 7. Age-Length key from Greenland halibut in the terminal year. Spanish Spring survey in NAFO Divs. 3NO.

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		11																				11
14		16																				16
16		9	2																			11
18			7	1																		8
20			8	4																		12
22			9	4																		13
24			7	8																		15
26			1	10	2																	13
28				6	2																	8
30				2	8	2																12
32				2	7	3																12
34					5	7																12
36					2	11																13
38					1	10	1															12
40						10	5															15
42						2	11															13
44						3	11															14
46						1	10	1														12
48							9	3														12
50							3	9														12
52							1	12	1													14
54								10	3													13
56								6	7		1											14
58									4	1	2											7
60										6	2											8
62										2	1	1	1									5
64										1	1	3	1									6
66												3	1	2								6
68												3	1	1								5
70													4		1							5
72																1						1
74															1							1
76												1	1		3							5
78																						0
80																2						2
82																1						1
84																						0
86																						0
88																						0
90																						0
92																						0
94																						0
96																						0
98																						0
100																						0
Total	0	39	34	37	27	49	51	41	15	10	7	11	9	3	5	4	0	0	0	0	0	342

Table 8. Abundance (thousands) of Greenland halibut by age and total year. Spanish Spring survey in NAFO Divs. 3NO.

Age	2021	2022	2023	2024	2025
0	0	0	0	0	0
1	2,041	1,354	503	603	2,524
2	5,868	1,685	2,625	428	948
3	1,262	2,008	1,897	315	794
4	945	2,530	3,280	1,370	482
5	1,921	2,415	3,439	2,930	1,700
6	2,146	3,767	3,300	3,002	2,200
7	1,119	1,647	1,289	1,207	1,097
8	332	558	542	343	196
9	238	407	295	286	160
10	210	283	228	220	89
11	265	201	113	184	88
12	40	73	177	110	95
13	36	30	49	87	26
14	18	17	65	31	35
15	14	14	23	31	27
16	8	24	23	28	0
17	10	4	9	0	0
18	0	7	4	0	0
19	0	0	17	14	0
20	17	0	0	0	0
Total	16,490	17,023	17,879	11,191	10,462

Table 9. Biomass (t) of American plaice by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353	276	186	474	901	697
354	82	18	224	433	95
355	4	6	0	28	2
356	5	6	2	14	4
357	33			281	29
358	329	28	387	496	230
359	2,209	842	3,308	5,396	3,497
360	10,877	3,594	16,571	22,247	15,600
374	607	259	7,202	996	1,860
375	172	436	486	721	210
376	687	144	934	1,018	3,160
377	1,598	690	996	846	1,677
378	107	292	278	406	426
379	2		0	1	2
380	30	9			2
381	350	776	391	2,953	283
382	10,100	942	3,934	4,509	7,846
721	5				
722					
723				30	43
724					
725	3				
726					
727					
728					
752					
753					
754					
755					
756				2	
757					
758					
759					
760					
761					
762					
763					
764					
765					
766					
767					
Biomass	27,475	8,228	35,187	41,277	35,664
SD_B	8,940	1,284	4,467	4,912	6,700
MWPT	34.08	10.28	40.37	45.62	40.73
SD_MWPT	10.98	1.59	5.09	5.47	7.38
Abundance	93,318	37,036	147,875	175,966	142,349
SD_A	19,049	7,739	18,705	33,003	17,608

Table 10. American plaice abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
2	0	0	0	0	0
4	94	0	0	0	130
6	2,739	7	19	17	2118
8	6,892	0	408	227	6169
10	1,094	734	601	1672	2195
12	155	4,082	2,494	5,599	2195
14	771	5,296	8,030	3,273	3418
16	873	3,755	16,182	3,348	3240
18	1,215	1,025	23,440	11,657	6,004
20	3,683	374	17,910	22,411	7,404
22	10,769	697	7,859	34,167	14,094
24	10,001	1,438	3,987	23,647	17,959
26	4,144	2,513	5,763	9,604	21,101
28	3,308	2,466	7,258	7,415	14,111
30	5,405	2,638	7,311	7,060	9,302
32	8,908	2,487	8,688	7,470	5,124
34	9,356	2,487	9,300	7,943	3,932
36	7,076	2,123	6,854	7,940	3,399
38	4,430	1,307	4,361	6,630	4,010
40	2,850	889	3,305	3,379	3,301
42	3,189	736	3,195	3,314	2,851
44	3,025	760	4,026	2,727	2,033
46	1,941	567	3,193	2,322	2,154
48	738	319	2,048	1,711	2510
50	429	156	755	1050	1568
52	33	74	418	644	959
54	40	18	239	432	419
56	23	44	130	142	157
58	34	16	59	58	181
60	20	11	0	47	69
62	63	13	41	44	58
64	0	0	0	18	92
66	21	0	0	0	14
68	0	0	0	0	64
70	0	0	0	0	0
72	0	0	0	0	14
74	0	0	0	0	0
76	0	0	0	0	0
Total	93,318	37,036	147,875	175,966	142,349
Biomass(t)	27,475	8,228	35,187	41,277	35,664
B/SOP(%)	104	101	103	105	104
Nsamples	64	56	47	63	62
Nindiv	6,332	3,752	6,912	8,222	9,104
Minlen	5	7	6	6	4
Maxlen	67	63	63	65	72
Sampledcatch(kg)	1,744	1,055	1,651	2,299	2,274
Totalcatch(kg)	3,477	1,072	3,188	4,185	3,800

Table 11. Biomass (t) of Atlantic cod by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353	1		13		19
354	1		10	47	215
355			2	310	
356	7	2		7	1
357	12			53	30
358	3,363	73	232	2,427	682
359	39	699	268	2,366	533
360	592	19	218	503	396
374	24	14	2	1	
375	114	22	607	64	12
376	168	18	1,635	210	185
377	666	134	245	1,179	161
378	175	186	101	2,107	1,274
379	12	119	19	32	
380	9	1		18	13
381	7,294	445	938	5,412	545
382	209	468	2,590	3,947	1,790
721					
722					
723				21	
724					
725					
726					
727					
728					
752					
753					
754					
755					
756					
757					
758					
759					
760					
761					
762					
763					
764					
765					
766					
767					
Biomass	12,685	2,198	6,880	18,705	5,857
SD_B	7,139	680	1,746	4,087	1,759
MWPT	15.88	2.74	8.05	20.67	6.51
SD_MWPT	9.29	0.86	2	4.53	1.93
Abundance	19,904	3,093	9,110	20,499	8,606
SD_A	9,852	843	1,736	4,519	2,525

Table 12. Atlantic cod abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
6	13	0	0	0	0
8	13	0	0	0	0
10	128	0	25	29	21
12	269	13	0	85	14
14	971	13	132	504	60
16	1,218	0	74	462	151
18	462	29	12	114	325
20	135	24	64	28	348
22	35	36	95	172	287
24	117	24	267	263	403
26	320	29	551	332	715
28	507	131	738	309	541
30	589	246	1,036	305	374
32	890	347	966	449	408
34	1,583	426	593	698	657
36	1,847	320	611	1217	478
38	1,876	304	577	1377	312
40	2,004	264	687	1452	413
42	1,284	116	449	1148	261
44	1,303	158	351	1362	324
46	573	112	279	1757	351
48	638	81	220	1633	222
50	561	45	158	1822	289
52	387	48	171	1317	257
54	424	33	122	1060	210
56	399	22	191	647	254
58	423	6	82	434	192
60	148	31	70	380	118
62	173	27	54	353	129
64	104	27	71	177	108
66	161	37	81	208	91
68	68	13	0	98	39
70	76	4	21	96	44
72	66	31	55	69	29
74	39	4	30	32	51
76	22	37	5	22	43
78	16	0	56	12	22
80	0	22	39	25	20
82	4	0	19	0	6
84	20	13	0	14	13
86	0	4	0	28	14
88	0	7	38	0	0
90	0	0	19	8	0
92	0	0	26	0	14
94	26	7	38	0	0
96	0	0	0	0	0
98	0	4	0	0	0
100	0	0	19	0	0
102	0	0	19	0	0
104	0	0	0	0	0
106	0	0	0	0	0
108	0	0	0	0	0
110	0	0	0	0	0
112	0	0	0	0	0
114	0	0	0	0	0
116	0	0	0	0	0

118	13	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
132	0	0	0	0	0
Total	19,904	3,093	9,110	20,499	8,606
Biomass(t)	12,685	2,198	6,880	18,705	5,857
B/SOP(%)	103	102	105	106	103
Nsamples	46	27	33	44	36
Nindiv	1,821	512	1,153	2,418	1,257
Minlen	7	13	11	10	11
Maxlen	118	98	102	91	92
Sampledcatch(kg)	1,223	372	749	2248	833
Totalcatch(kg)	2,225	375	749	2878	833

Table 13. Age-Length key from Atlantic cod in the terminal year. Spanish Spring survey in NAFO Divs. 3NO.

Length	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total
6																					0
8																					0
10	2																				2
12	1																				1
14	6																				6
16	10																				10
18	9	1																			10
20	13	2																			15
22	5	7																			12
24	1	11																			12
26		12	1																		13
28		12																			12
30		6	8																		14
32		1	12	1																	14
34			12																		12
36			10	2																	12
38			7	4																	11
40			1	13																	14
42			1	11																	12
44				12																	12
46				10	5																15
48				10	1	1															12
50				7	6																13
52				2	8	2															12
54				3	8		1														12
56					9	2	1														12
58					8	4															12
60					6	3	1	1													11
62					6	2	2														10
64					2	3	1	3													9
66					3	3	2														8
68							5	1													6
70						2	1	2													5
72							2	1	1												4
74						1	2	1		1											5
76							1	1	2			1									5
78									2												2
80							1	1		1											3
82							1	1													2
84							1	1													2
86								1													1
88																					0
90																					0
92										1											1
94																					0
96																					0
98																					0
100																					0
102																					0
Total	47	52	52	75	62	23	22	14	5	3	0	1	0	0	0	0	0	0	0	0	356

Table 14. Abundance (thousands) of Atlantic cod by age and total year. Spanish Spring survey in NAFO Divs. 3NO.

Age	2021	2022	2023	2024	2025
1	3,011	25	224	1,028	1,009
2	1,413	332	1,869	1,106	2,002
3	7,949	1,354	3,922	4,416	1,960
4	3,739	900	1,360	7,789	1,754
5	1,271	191	1,009	3,313	1,159
6	1,621	65	233	2,190	318
7	470	125	108	420	187
8	220	65	178	139	128
9	126	15	119	60	46
10	28	10	21	23	33
11	10	7	9	7	0
12	10	0	38	7	9
13	39	0	0	0	0
14	0	0	0	0	0
15	0	0	19	0	0
16	0	0	0	0	0
17	0	4	0	0	0
18	0	0	0	0	0
19	0	0	0	0	0
20	0	0	0	0	0
Total	19,904	3,093	9,110	20,499	8,606

Table 15. Biomass (t) of yellowtail flounder by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353	729	91	175	873	85
354	4				
355					
356					
357					
358	13				
359	6		2		3
360	18,223	9,786	37,311	47,723	61,685
374	3,185	1,013	7,415	2,368	6,525
375	1,587	606	2,274	2,617	1,933
376	15,298	3,628	21,905	30,669	25,216
377					
378					
379					
380					
381					
382	8				358
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	39,052	15,123	69,083	84,250	95,806
SD_B	5,566	2,672	16,214	13,709	13,917
MWPT	48.84	18.81	78.01	94.06	111.06
SD_MWPT	6.82	3.27	18.97	15.15	16.54
Abundance	135,272	47,993	241,805	354,062	379,706
SD_A	19,524	9,078	55,110	70,597	59,755

Table 16. Yellowtail flounder abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
2	0	0	35	0	0
4	67	0	0	0	0
6	385	0	11	20	78
8	425	7	198	217	104
10	1,835	13	1,130	500	753
12	3,680	13	295	705	1815
14	3,689	74	928	645	1579
16	6,074	171	1,659	2,363	2,673
18	7,324	453	4,866	4,029	3,078
20	5,185	1,041	10,081	10,964	4,409
22	1,946	1,837	15,073	23,446	9,712
24	1,950	2,790	21,009	45,193	24,014
26	4,963	1,863	30,511	50,651	41,825
28	8,414	2,357	20,828	55,052	69,953
30	12,386	5,344	18,565	45,244	69,609
32	18,946	9,421	30,249	35,931	64,700
34	22,195	10,416	31,564	29,706	35,527
36	16,774	5,986	24,413	24,133	23,465
38	11,145	3,385	16,666	14,160	15,102
40	4,879	1,734	7,609	6,560	7,460
42	2,029	724	4,243	3,066	2,236
44	657	227	1,501	976	908
46	218	77	247	355	635
48	79	61	124	69	63
50	26	0	0	78	8
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	135,272	47,993	241,805	354,062	379,706
Biomass(t)	39,052	15,123	69,083	84,250	95,806
B/SOP(%)	100	97	107	103	101
Nsamples	36	32	26	33	34
Nindiv	7,064	3,536	3,991	6,470	5,992
Minlen	5	9	3	6	6
Maxlen	50	49	48	50	50
Sampledcatch(kg)	2,193	1,142	1,169	1,793	1,628
Totalcatch(kg)	3,357	1,270	4,253	6,192	7,370

Table 17. Biomass (t) of redfish by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353		1			
354	20	4	5	12	38
355	102	80	305	1,124	174
356	769	173	3,060	2,605	944
357	19,562	28,454	17,759	43,862	28,559
358	28,835	14,463	20,166	30,315	21,642
359	3,222	38,545	57		1
360	332				20
374					
375					
376					
377	6		41		
378	269	2,343	6,076	3,597	3,868
379	4,041	14,157	4,023	16,772	6,360
380	6,638	11,946	6,654	9,026	6,371
381	65	180	35	174	122
382		86		3	
721	1,301	6,028	3,032	1,318	4,297
722	0	755	20	35	459
723	5,873	18,345	8,347	10,726	14,607
724	280	535	523	264	342
725	3,699	1,932	4,103	2,501	2,885
726	42	43	225	23	44
727	50	61	26	127	427
728	210	23	16	54	6
752	4			26	
753		5			
754					
755					
756				4	
757					
758		13			
759			18		
760	38				
761					
762					
763	6				
764					
765					
766					
767					
Biomass	75,364	138,170	74,492	122,569	91,164
SD_B	19,245	66,695	16,019	18,695	15,717
MWPT	91	167	83	110	105
SD_MWPT	23	55	18	23	18
Abundance	320,592	504,652	285,497	522,711	373,531
SD_A	74,566	249,955	80,304	105,917	71,591

Table 18. Redfish abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
4	0	0	0	0	46
6	867	330	226	735	572
8	715	693	366	7838	2126
10	1,238	1,252	295	1561	2198
12	2,681	365	2,431	1,078	4,379
14	1,068	1,902	688	4558	2643
16	874	1,354	3,053	11,369	2,715
18	4,375	2,225	10,587	28,428	8,127
20	15,074	5,538	34,302	50,735	36,544
22	80,689	45,082	45,658	76,013	64,262
24	89,264	151,513	52,920	117,265	78,399
26	64,717	141,831	44,161	94,835	62,339
28	39,802	104,599	53,496	79,144	66,803
30	12,989	31,224	24,928	32,975	30,058
32	4,058	11,610	8,545	10,391	8,669
34	1,373	3,956	2,737	2,752	2,192
36	432	714	763	1418	827
38	180	365	188	962	515
40	132	42	86	476	32
42	49	51	53	122	78
44	9	6	9	24	3
46	0	0	3	0	3
48	0	0	0	6	0
50	0	0	0	0	0
52	0	0	0	8	0
54	0	0	0	0	0
56	0	0	0	0	0
58	0	0	0	16	0
60	0	0	0	0	0
62	0	0	0	0	3
64	0	0	3	0	0
66	3	0	0	0	0
68	0	0	0	3	0
70	4	0	0	0	0
Total	320,592	504,652	285,497	522,711	373,531
Biomass(t)	75,364	138,170	74,492	122,569	91,164
B/SOP(%)	104	106	109	108	108
Nsamples	47	39	38	38	37
Nindiv	5,001	6,290	5,067	6,190	5,732
Minlen	6	6	6	6	5
Maxlen	70	44	65	68	62
Sampledcatch(kg)	1,232	1,557	1,422	1,443	1,300
Totalcatch(kg)	13,933	25,454	14,115	18,179	16,544

Table 19. Biomass (t) of witch flounder by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353	29	1	163	14	61
354	9		2	5	24
355		1		7	4
356	1		3	3	2
357	13	1	5	45	4
358	19		42	67	25
359	85	26	50	110	88
360	977	25	432	474	419
374				10	
375				6	6
376	8		22	222	114
377			16	12	54
378		3	3	2	13
379		9	2	1	2
380	4		10		
381	4			6	4
382	3		12		
721	2	1	9	19	19
722	3	2	1	15	6
723	8	4		17	3
724	24	28	12	9	8
725	16	13	6	30	13
726	1	4	70	24	30
727	13	17	5	76	6
728	6	2	14	56	50
752	28	53	26	9	184
753				19	7
754		0			4
755					0
756	19	15	2	75	25
757	11		54	89	0
758			4		
759			2		
760	25	22	12	44	59
761	11	30	34	11	35
762					
763					
764	3	2	3	28	7
765		4	22		
766	3				1
767					
Biomass	1,324	262	1,038	1,504	1,278
SD_B	476	60	244	250	183
MWPT	1.62	0.3	1.15	1.63	1.46
SD_MWPT	0.62	0.07	0.28	0.27	0.21
Abundance	3,330	758	2,325	3,796	2,817
SD_A	1,657	122	435	603	374

Table 20. Witch flounder abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
4	0	0	0	0	0
6	7	4	0	0	24
8	16	8	0	0	7
10	0	0	7	3	0
12	14	0	9	16	6
14	15	0	4	20	0
16	29	16	7	34	6
18	53	11	0	29	9
20	50	11	17	53	17
22	39	19	34	7	16
24	21	27	56	74	49
26	151	14	109	154	24
28	249	34	123	280	76
30	188	50	132	342	165
32	177	93	158	476	306
34	228	89	187	272	209
36	206	64	132	290	276
38	288	112	123	376	302
40	378	58	309	230	297
42	400	35	351	295	288
44	489	39	182	277	254
46	191	19	221	227	198
48	94	24	102	167	136
50	43	17	57	84	75
52	0	13	3	77	39
54	0	0	0	13	30
56	0	0	0	0	9
58	0	0	0	0	0
60	0	0	0	0	0
62	0	0	0	0	0
Total	3,330	758	2,325	3,796	2,817
Biomass(t)	1,324	262	1,038	1,504	1,278
B/SOP(%)	101	102	105	102	101
Nsamples	53	35	53	63	69
Nindiv	377	141	312	589	431
Minlen	6	7	11	10	6
Maxlen	51	52	52	55	56
Sampledcatch(kg)	138	47	128	206	182
Totalcatch(kg)	138	47	128	206	182

Table 21. Biomass (t) of roughhead grenadier by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353					
354					
355		6			
356			0	1	
357	20		18	291	79
358	1	4	5		
359					
360					
374					
375					
376					
377					
378				74	10
379	39	21	41	38	107
380	312	13	159	1,387	2,143
381	37	10	184	655	779
382					
721		5	13	12	0
722	2	6	13	91	46
723	27	7	17	54	81
724	72	30	18	290	89
725	60	22	29	280	146
726	66	34	22	405	903
727	251	13	47	303	182
728	223	14	21	232	198
752	155	32	421	568	532
753	41	75	102	966	289
754	425	65	532	653	1,551
755	495	308	442	1,050	889
756	115	30	795	150	617
757	68	91	158	675	638
758	52	48	89	1,422	260
759	89	60	234	223	211
760	65	51	20	238	178
761	17	4	9	724	114
762	45	76	4	337	199
763	94	42	24	251	205
764	22	0	45	62	76
765	9	21	49	73	47
766	20	0	18	26	21
767	10	43		24	17
Biomass	2,833	1,132	3,527	11,554	10,606
SD_B	581	274	555	1,800	2,452
MWPT	3	1	4	12	11.65
SD_MWPT	1	0	1	2	2.66
Abundance	7,255	2,906	9,217	22,928	23,898
SD_A	1,613	587	1,190	2,564	7,583

Table 22. Roughhead grenadier abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
1	0	0	0	0	0
2	65	22	31	106	103
3	387	467	315	913	571
4	17	22	30	197	186
5	140	119	531	743	570
6	487	121	1,694	536	662
7	105	65	156	720	367
8	143	112	272	773	519
9	144	82	206	381	582
10	118	86	378	526	1,153
11	299	91	241	869	1,052
12	504	125	212	1,113	1,356
13	446	196	360	1,419	2,127
14	517	154	435	1,298	2,259
15	657	151	611	1,765	2,033
16	478	156	608	1,984	1,642
17	444	141	523	1,949	1,731
18	528	142	449	1,606	1,334
19	530	168	392	1,205	893
20	299	28	324	737	775
21	218	54	207	558	478
22	162	76	282	542	582
23	118	70	137	469	396
24	112	45	181	518	440
25	71	40	165	505	453
26	61	21	108	384	430
27	63	33	127	289	353
28	60	41	77	210	216
29	25	39	52	275	245
30	20	5	49	134	107
31	9	6	24	76	152
32	18	8	5	55	93
33	4	7	32	48	6
34	0	13	4	9	21
35	0	0	0	15	6
36	8	0	0	0	4
37	0	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0
41	0	0	0	0	0
42	0	0	0	0	0
Total	7,255	2,906	9,217	22,928	23,898
Biomass(t)	2,833	1,132	3,527	11,554	10,606
B/SOP(%)	104	105	102	107	102
Nsamples	53	48	55	59	57
Nindiv	1,281	440	1,277	3,197	2,691
Minlen	2	2	3	2	2
Maxlen	36	35	34	36	37
Sampledcatch(kg)	530	171	577	1,727	1,358
Totalcatch(kg)	530	171	634	2,037	2,014

Table 23. Biomass (t) of thorny skate by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353	686	74	389	2,364	807
354	263	84	310	2,259	4,030
355	23		41	4,007	35
356	141		29	424	40
357	296		31	2,097	28
358	2,074		351	3,911	262
359	738	190	212	872	2,704
360	12,338	1,138	4,172	15,032	16,803
374	77		43	340	325
375	191	21	734	1,230	1,211
376	5,757	197	4,933	31,288	16,510
377		14	84	296	114
378	0	7		671	240
379	13		23	57	9
380	760	340	325	3,450	805
381	499	8	150	1,962	2,659
382	274	17	607	858	608
721	152	22	51	132	112
722	22			128	25
723	182			56	32
724			53		72
725			40	88	150
726				40	25
727	28		22	87	48
728	7				51
752		24			
753					
754					36
755					
756					
757					
758					
759					
760			0	0	
761	29				
762					
763					
764	17			35	41
765					
766					
767					78
Biomass	24,567	2,135	12,601	71,684	47,860
SD_B	3,529	460	2,349	15,853	6,502
MWPT	30.37	2.64	14.17	78.52	54.92
SD_MWPT	4.41	0.56	2.72	17.79	7.4
Abundance	10,307	764	5,129	31,106	17,865
SD_A	1,449	135	892	7,955	2,296

Table 24. Thorny skate abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
10	2	0	6	22	0
12	7	0	0	111	4
14	286	13	326	393	55
16	143	38	184	275	91
18	71	13	4	183	62
20	122	0	12	74	60
22	34	0	6	62	59
24	122	0	6	171	106
26	47	0	16	285	240
28	165	0	27	333	239
30	111	7	44	354	285
32	103	0	89	607	290
34	131	21	133	578	228
36	176	21	82	606	333
38	191	0	117	551	320
40	319	11	66	983	352
42	243	23	109	1,102	566
44	412	20	140	1,028	535
46	337	16	106	1,247	550
48	364	15	92	1,430	480
50	285	31	116	1,252	588
52	258	4	320	1,050	393
54	270	13	214	1,660	542
56	403	36	106	1,847	566
58	380	29	164	707	562
60	422	0	130	925	706
62	324	40	236	1,275	643
64	393	29	191	1,470	629
66	483	21	179	1,224	783
68	488	23	157	1,259	1,042
70	668	48	332	1,373	896
72	566	34	414	1,182	979
74	465	66	236	1,159	979
76	460	96	160	1,220	895
78	296	25	140	911	810
80	221	0	144	678	723
82	196	39	68	779	465
84	169	19	134	303	407
86	84	0	41	189	104
88	32	13	3	97	136
90	19	0	19	33	103
92	33	0	40	43	35
94	0	0	0	24	20
96	0	0	0	4	0
98	0	0	21	4	4
100	0	0	0	3	0
102	0	0	0	0	0
104	0	0	0	0	0
106	0	0	0	25	0
108	0	0	0	14	0
110	6	0	0	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	10,307	764	5,129	31,106	17,865
Biomass(t)	24,567	2,135	12,601	71,684	47,858
B/SOP(%)	100	99	98	100	100
Nsamples	65	31	53	74	75
Nindiv	1,117	98	384	2,224	1,597
Minlen	10	14	10	10	13
Maxlen	110	88	99	108	98
Sampledcatch(kg)	2,623	270	947	5,543	4,380
Totalcatch(kg)	2,623	270	965	7,891	4,661

Table 25. Biomass (t) of white hake by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353		4	229		
354	34	8	16	7	263
355	209	36	8	982	505
356	72		198	128	34
357	117	14	79	115	25
358	65	122	53	663	608
359	14	2	4		5
360	1	2			6
374					
375					
376					
377					
378		1			
379					32
380		1	2	0	29
381					
382					
721	38	27	281	97	35
722	0		31	2	
723	182	4	69	168	974
724			7	17	28
725			4	39	
726			0		
727					1
728					
752					
753					
754					
755					
756					
757					
758					
759					0
760					
761					
762	0				
763					
764	0	3			
765	0				
766			17		
767					
Biomass	733	223	998	2,219	2,545
SD_B	227	86	249	786	766
MWPT	0.89	0.27	1.11	2.37	2.92
SD_MWPT	0.27	0.11	0.27	0.86	0.87
Abundance	894	348	696	3,656	1,804
SD_A	305	133	67	2,499	523

Table 26. White hake abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
6	3	0	0	0	0
8	24	0	0	0	6
10	0	0	0	0	14
12	0	0	0	0	0
14	0	0	0	0	27
16	13	7	0	12	54
18	13	21	0	0	44
20	3	39	0	37	9
22	21	0	15	86	62
24	15	19	0	207	75
26	6	0	0	187	60
28	38	11	0	248	47
30	15	22	0	512	78
32	18	31	23	467	60
34	12	24	37	345	62
36	6	6	24	298	60
38	44	0	48	270	56
40	117	6	12	225	16
42	65	6	24	168	40
44	67	21	12	69	34
46	57	45	4	36	15
48	80	14	27	30	58
50	61	14	17	45	42
52	36	22	83	31	48
54	31	12	40	18	66
56	30	0	54	39	64
58	21	3	64	14	99
60	22	0	19	7	95
62	3	0	32	10	67
64	13	6	24	7	54
66	18	0	42	13	40
68	9	14	6	54	30
70	6	0	19	32	38
72	13	0	18	38	38
74	6	0	24	54	49
76	0	3	15	20	36
78	0	0	0	12	26
80	0	3	3	7	40
82	0	0	8	16	40
84	6	0	0	8	15
86	0	0	0	18	25
88	0	0	0	3	7
90	0	0	0	0	3
92	0	0	3	7	6
94	0	0	0	0	0
96	0	0	0	0	0
98	0	0	0	0	0
100	0	0	0	0	0
102	0	0	0	0	0
104	0	0	0	0	0
106	0	0	0	7	0
Total	894	348	696	3,656	1,804
Biomass(t)	733	223	998	2,219	2,545
B/SOP(%)	102	101	102	102	102
Nsamples	21	16	21	16	24
Nindiv	249	63	157	481	374
Minlen	7	17	22	17	8
Maxlen	84	80	92	106	92
Sampledcatch(kg)	191	48	265	361	504
Totalcatch(kg)	191	49	265	541	504

Table 27. Biomass (t) of squid by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353	1		0	0	1
354				0	4
355	4	1			
356	4				0
357	2				
358	2			1	2
359	11			0	1
360	35		1	1	11
374	1				1
375					1
376	27		3	0	1
377	1				
378	6				0
379	2				
380	1				0
381	2				
382	17				1
721	1			0	
722				1	
723	1			0	
724	1			1	0
725					
726	0			0	
727	0			0	
728		0		0	
752		0		1	
753				1	
754				1	
755				3	
756				1	
757				3	
758	0			1	
759				3	
760				3	
761			0	0	
762	0			2	
763	1			1	2
764				1	0
765				2	
766			0	2	
767	0			2	
Biomass	123	1	4	32	23
SD_B	23	0	2	5	8
MWPT	0.15	0	0	0.03	0.03
SD_MWPT	0.03	0	0	0	0.01
Abundance	2,442	0	0	0	0
SD_A	476	0	0	0	0

Table 28. Squid (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
3	0	0	0	0	0
4	0	0	0	0	0
5	2	0	0	0	0
6	8	0	0	0	0
7	12	0	0	0	0
8	30	0	0	0	0
9	38	0	0	0	0
10	153	0	0	0	0
11	300	0	0	0	0
12	253	0	0	0	0
13	640	0	0	0	0
14	440	0	0	0	0
15	242	0	0	0	0
16	166	0	0	0	0
17	115	0	0	0	0
18	26	0	0	0	0
19	16	0	0	0	0
Total	2,442	0	0	0	0
Abundance ('000)	123	1	4	32	23
B/SOP(%)	104	0	0	0	0
Nsamples	47	0	0	0	0
Nindiv	315	0	0	0	0
Minlen	6	0	0	0	0
Maxlen	19	0	0	0	0
Sampledcatch(kg)	17	0	0	0	0
Totalcatch(kg)	17	0	0	5	3

Table 29. Biomass (t) of capelin by stratum and year. Spanish Spring survey in NAFO Divs. 3NO.

Stratum	2021	2022	2023	2024	2025
353	126	1	2	15,519	9,050
354	440		17	14,517	
355	11			167	
356					
357					
358		186		6	
359	1,388	9,739	187	3,436	563
360	3,782	56,594	6,027	33,955	36,430
374	2	0	81	774	495
375	2	1	109	290	7,449
376	3,236	2,518	3,761	5,785	65,840
377	21	110		9	181
378				15	
379				0	
380					
381				1	97
382	0	0		256	308
721					
722					
723					
724					
725					
726					
727					
728					
752					
753					
754					
755					
756					
757					
758					
759					
760					
761					
762					
763		0			
764					
765					
766					
767					
Biomass	9,008	69,149	10,185	74,730	120,412
SD_B	2,291	28,383	3,122	8,532	25,077
MWPT	11.18	86.38	11.35	82.04	138.55
SD_MWPT	2.82	35.1	3.43	9.56	28.98
Abundance	713,765	3,384,475	755,167	5,247,037	5,578,559
SD_A	188,074	1,302,367	284,416	659,813	1,025,816

Table 30. Capelin abundance (thousands) by length class and year. Spanish Spring survey in NAFO Divs. 3NO.

Length (cm)	2021	2022	2023	2024	2025
6	0	0	4,999	0	0
8	79,602	2,928	299,469	140,444	0
10	251,013	181,977	19,022	206,847	26,664
12	70,181	142,052	27,900	2,281,587	597,165
14	188,396	1,551,411	229,506	2,201,996	2,549,274
16	121,568	1,395,511	165,284	411,497	2,195,220
18	3,004	110,595	8,988	4,664	198,510
20	0	0	0	0	11725
22	0	0	0	0	0
Total	713,765	3,384,475	755,167	5,247,037	5,578,559
Biomass(t)	9,008	69,149	10,185	74,730	120,412
B/SOP(%)	102	106	100	103	107
Nsamples	39	40	25	46	42
Nindiv	2,653	3,286	1,669	3,845	2,535
Minlen	8	8	7	8	10
Maxlen	19	19	19	18	20
Sampledcatch(kg)	42	60	27	57	50
Totalcatch(kg)	853	6,211	565	7,358	9,745

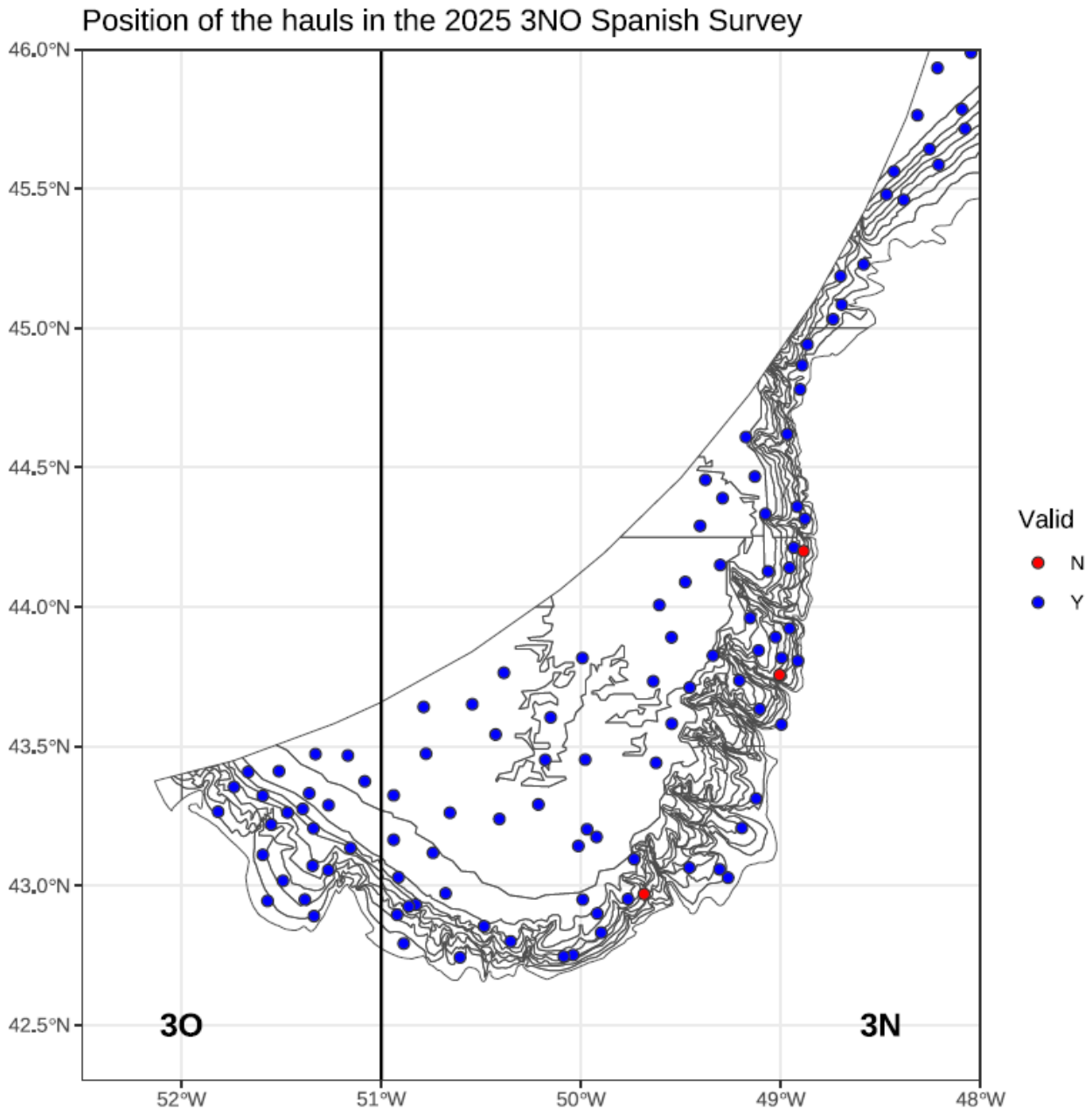

Figure 1. Position of the hauls in the 2025 NAFO Divs. 3NO Spanish survey.

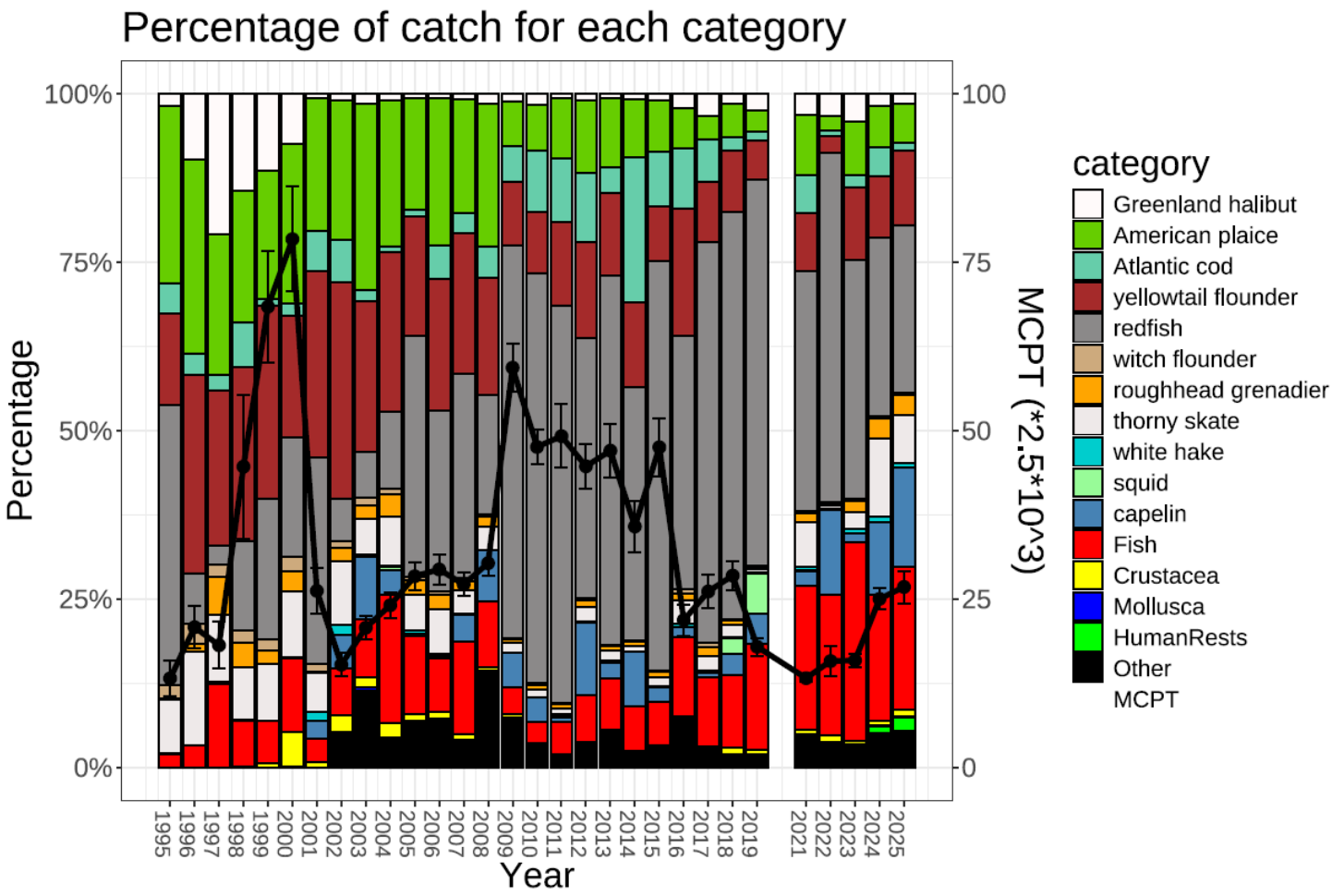

Figure 2. Percentage of the total catch for each species and group. Spanish Spring survey in NAFO Divs. 3NO. Black line represents Total Mean Catch per Tow of the survey.

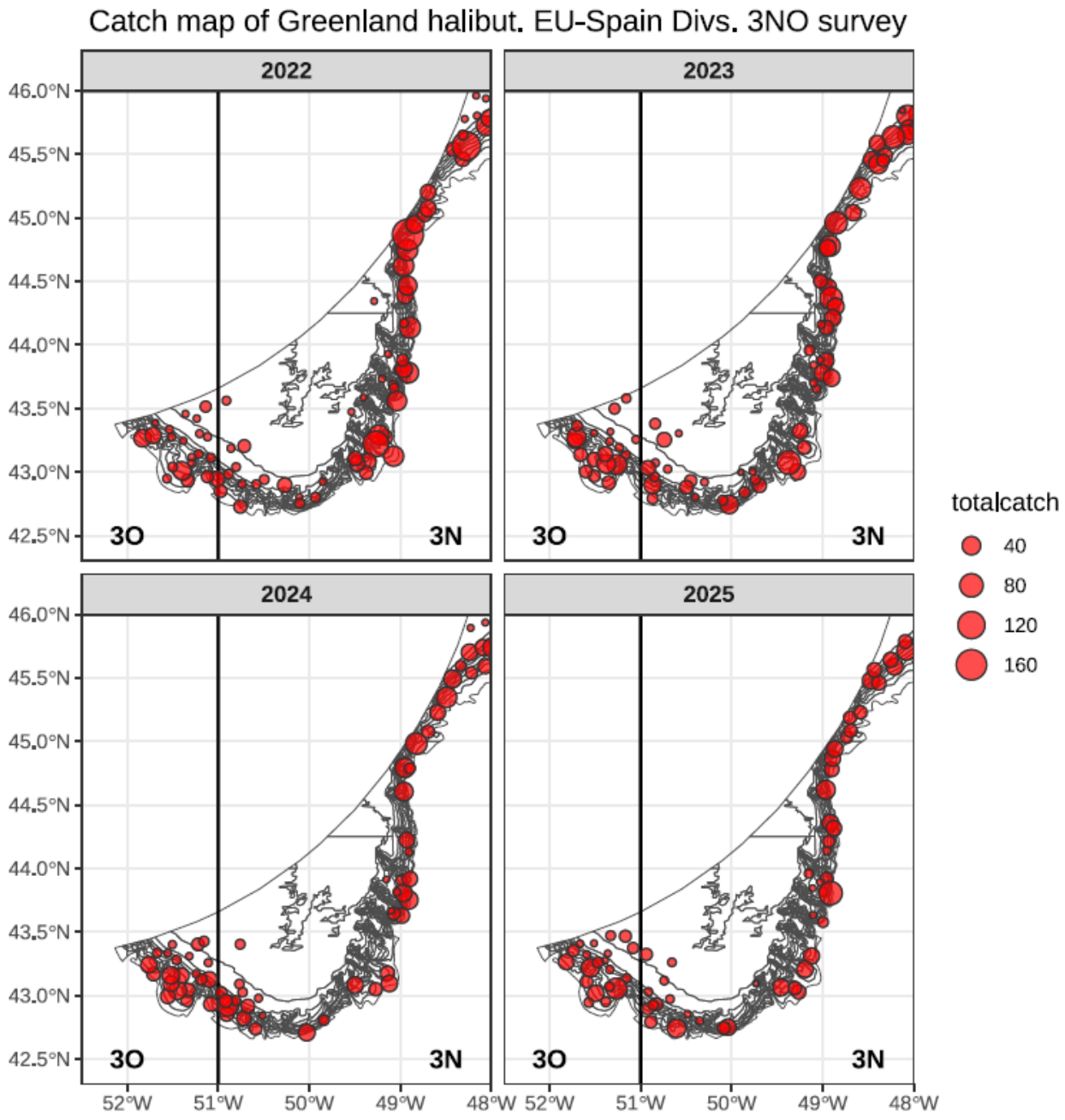

Figure 3. Greenland halibut. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

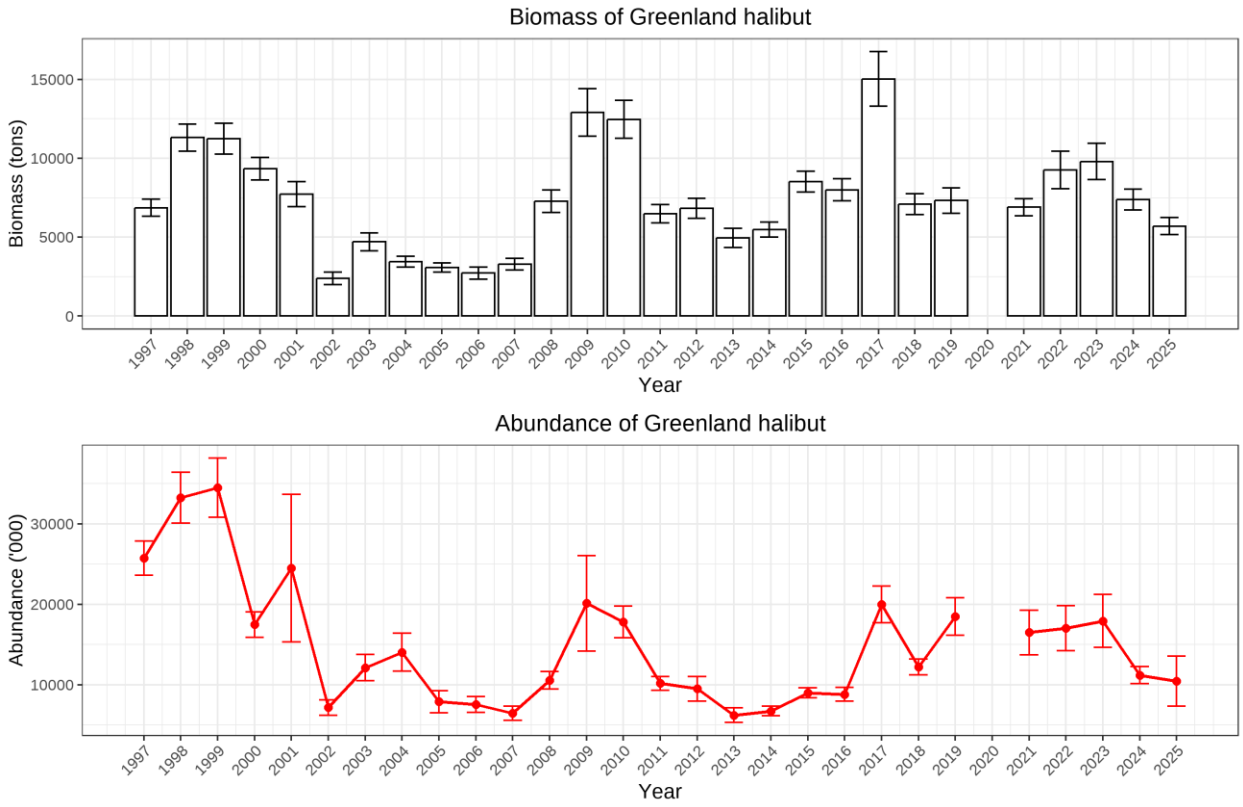

Figure 4. Greenland halibut total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

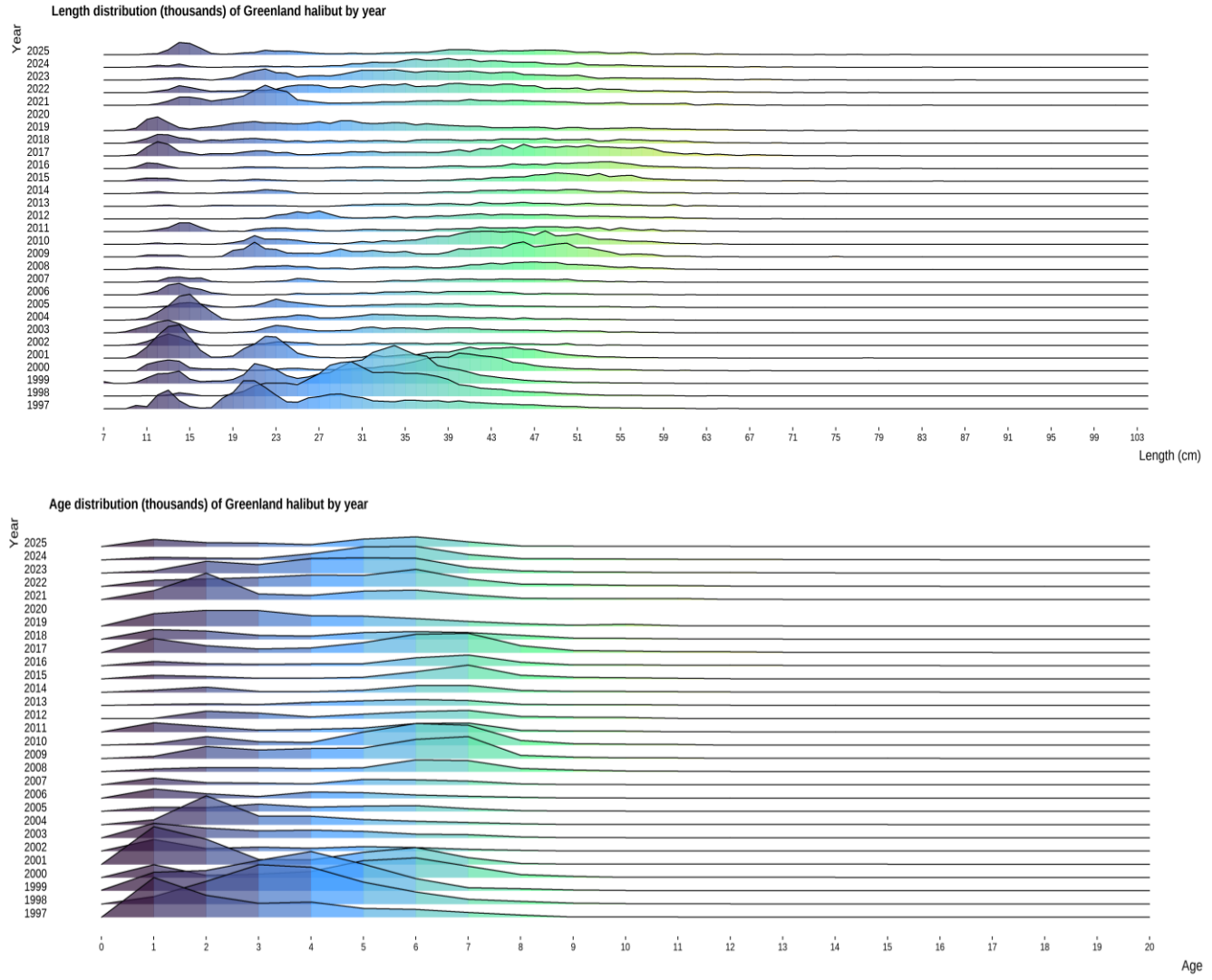

Figure 5. Greenland halibut total length (cm) (a) and age (b) distribution. EU-Spain Divs. 3NO survey.

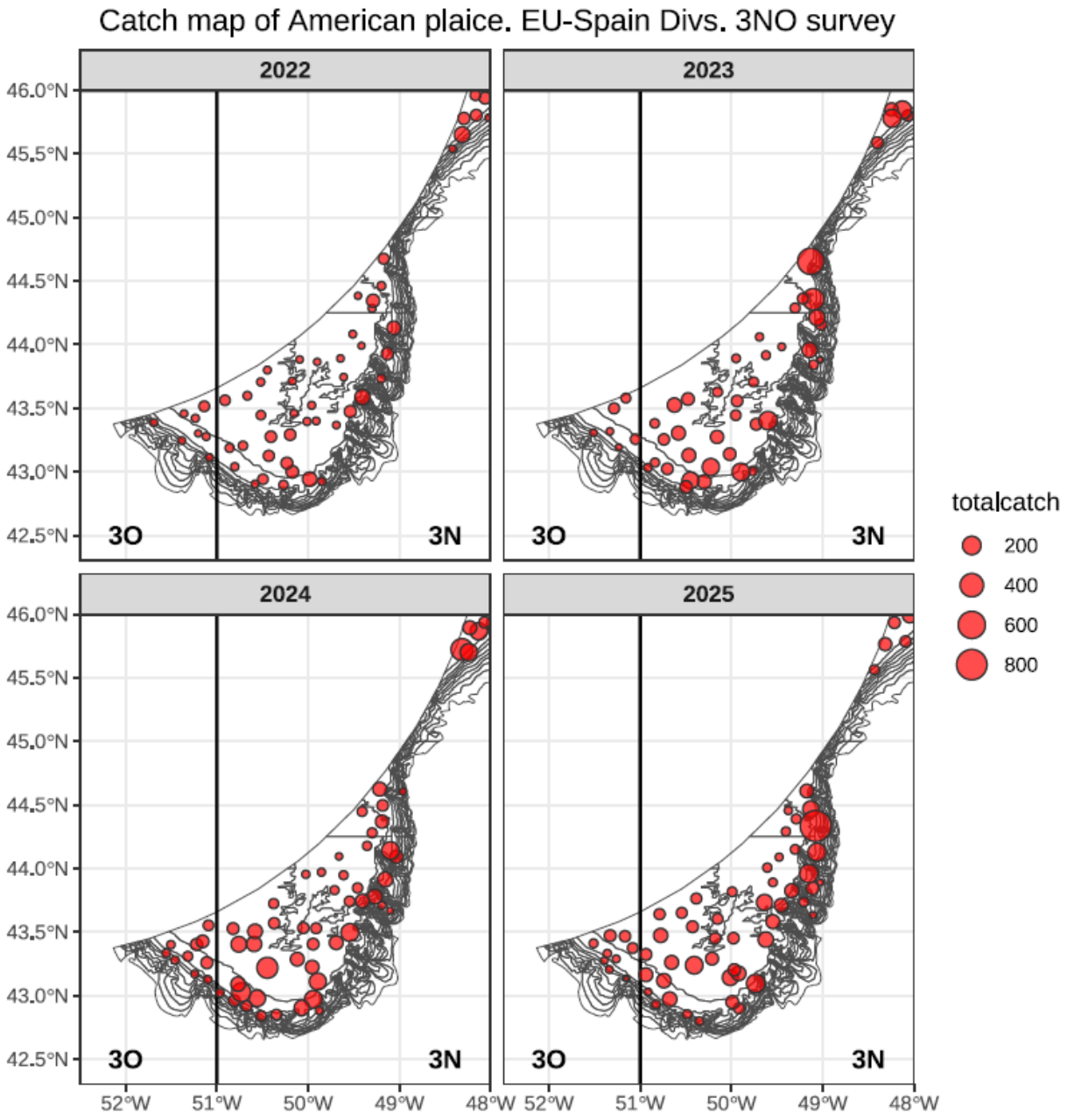

Figure 6. American plaice. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

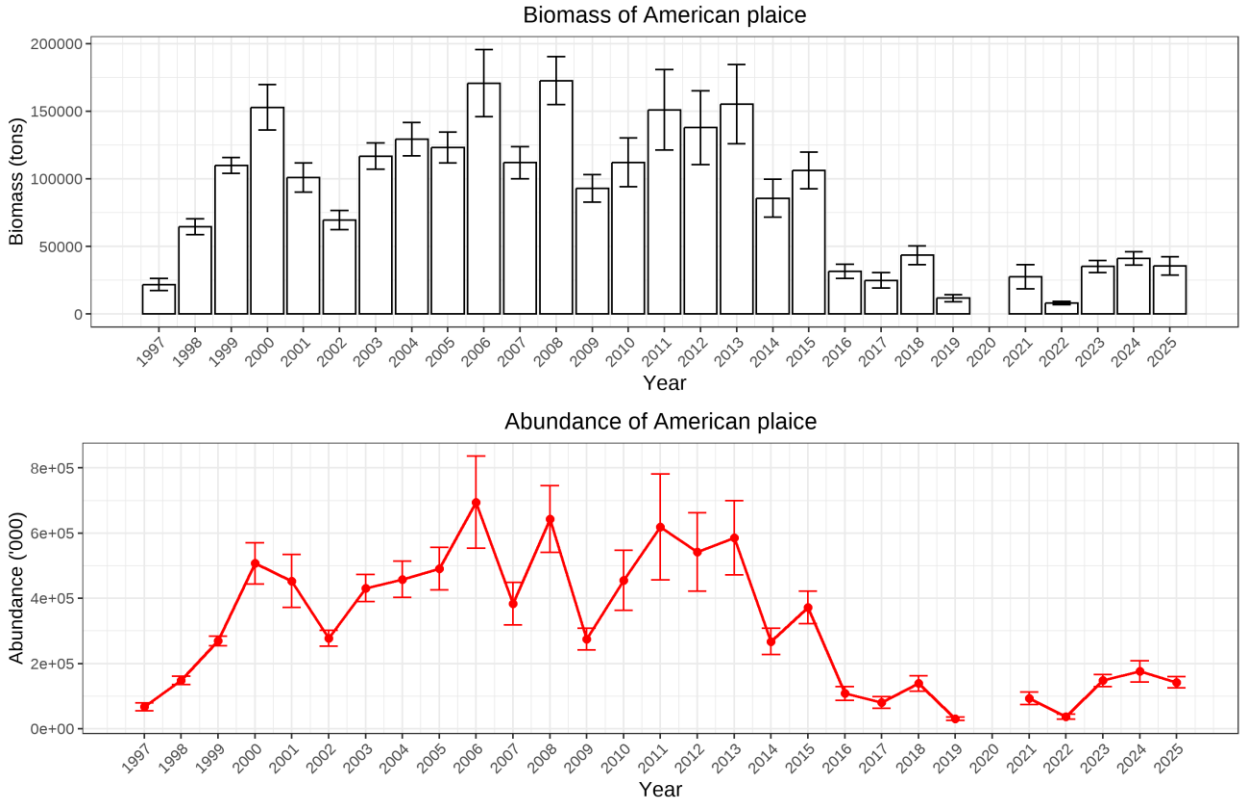

Figure 7. American plaice total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

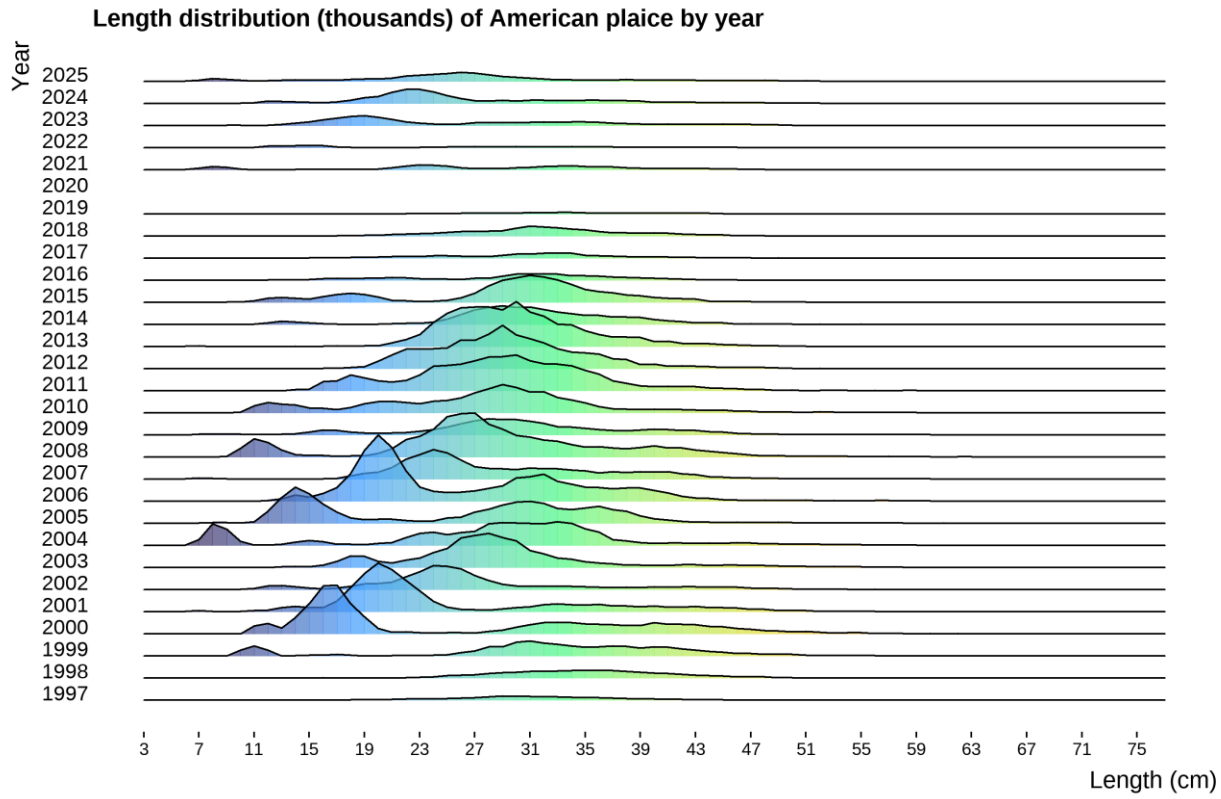

Figure 8. American plaice total length (cm) distribution. EU-Spain Divs. 3NO survey.

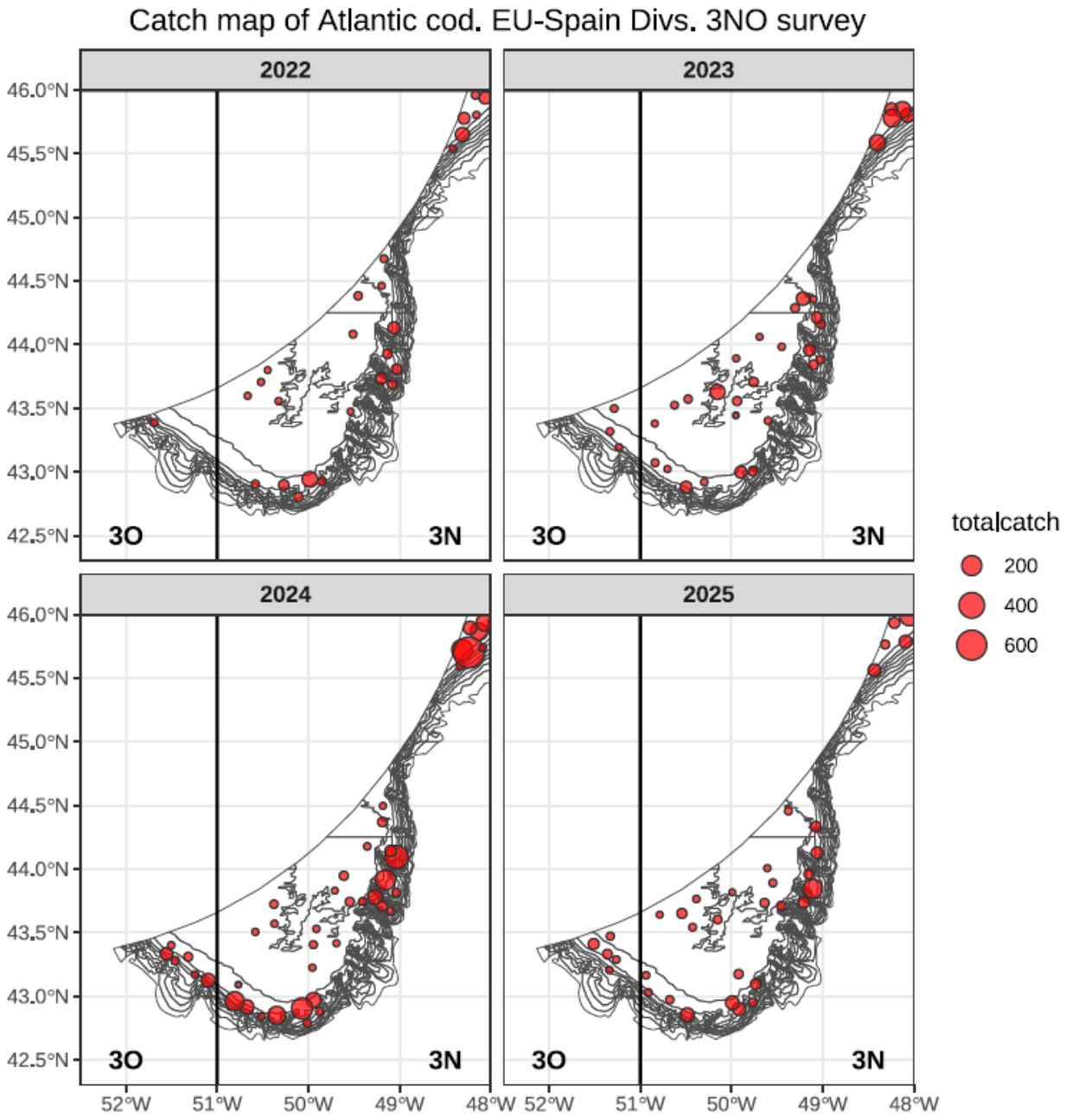

Figure 9. Atlantic cod. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

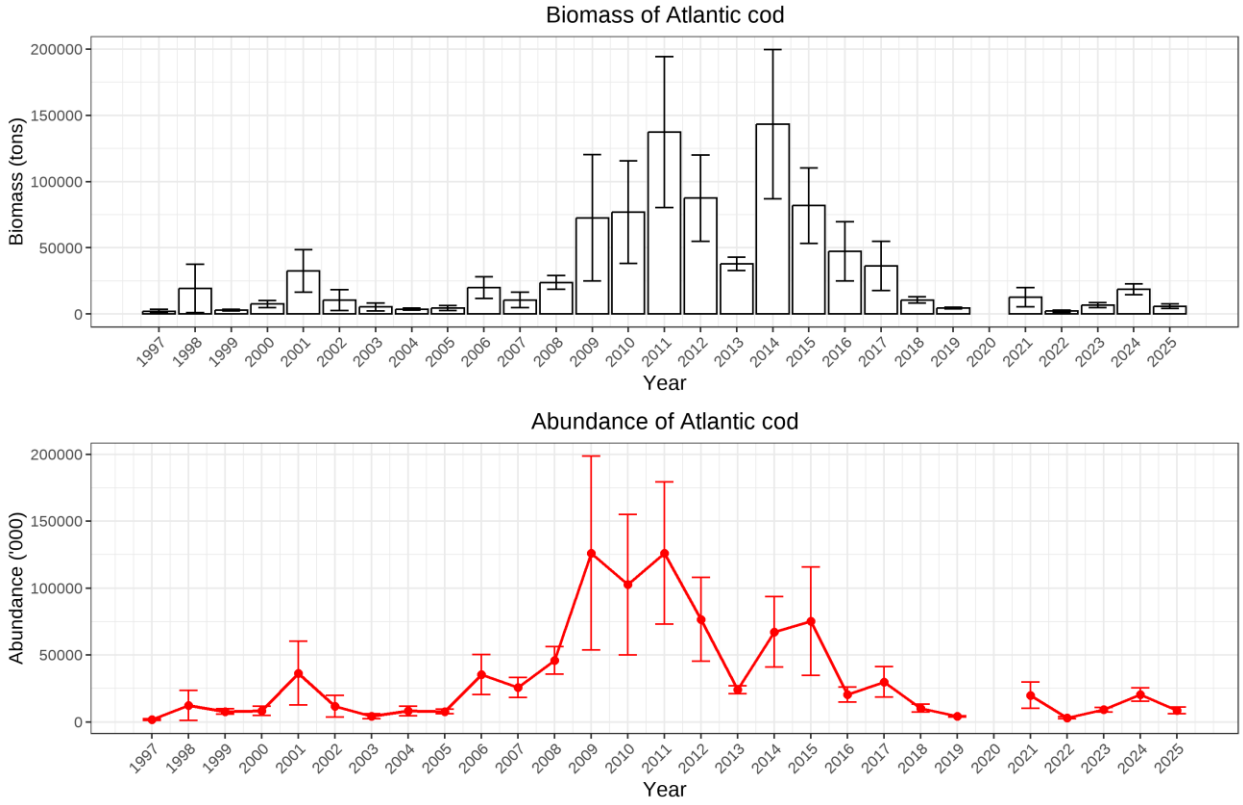

Figure 10. Atlantic cod total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

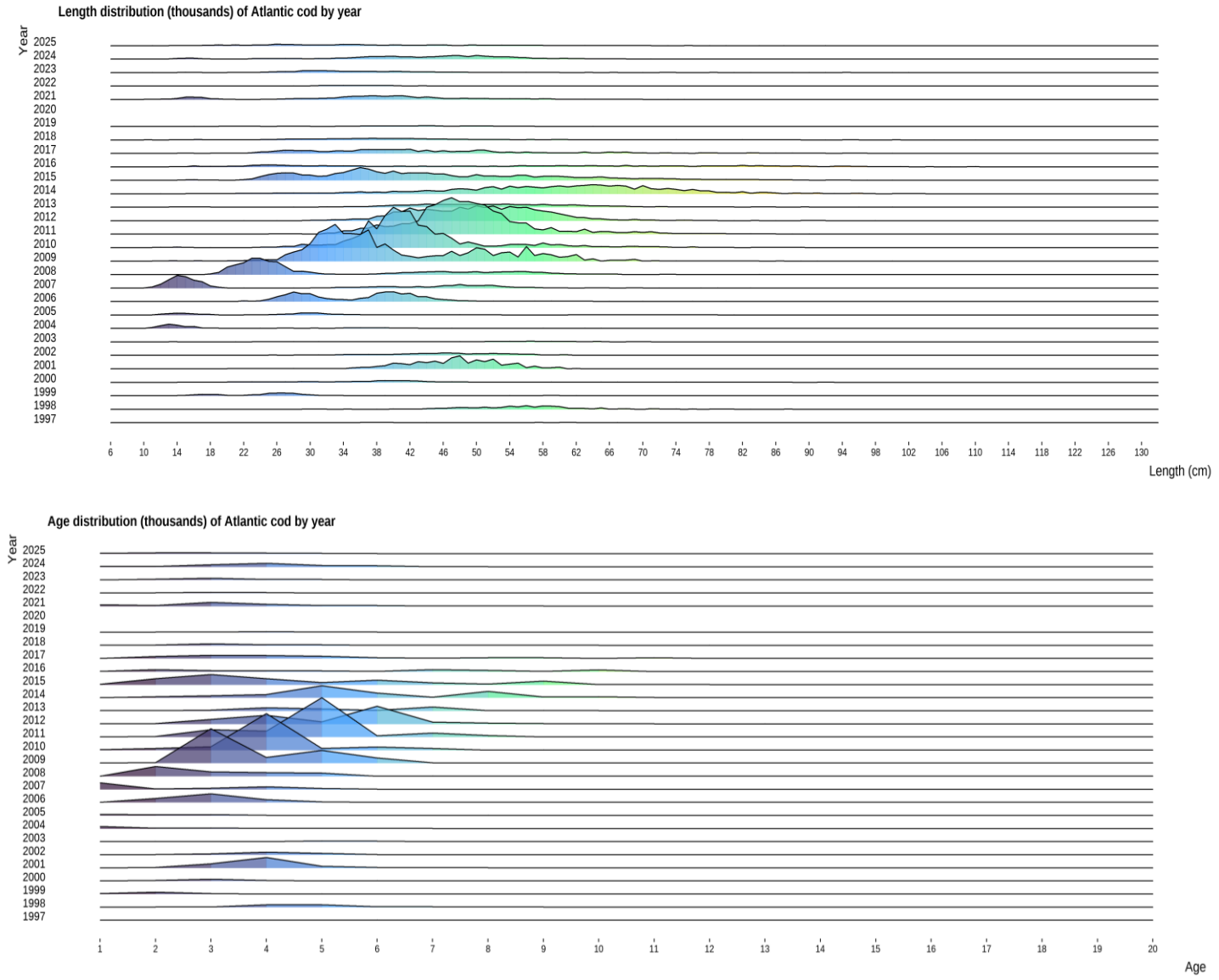

Figure 11. Atlantic cod total length (cm) (a) and age (b) distribution. EU-Spain Divs. 3NO survey.

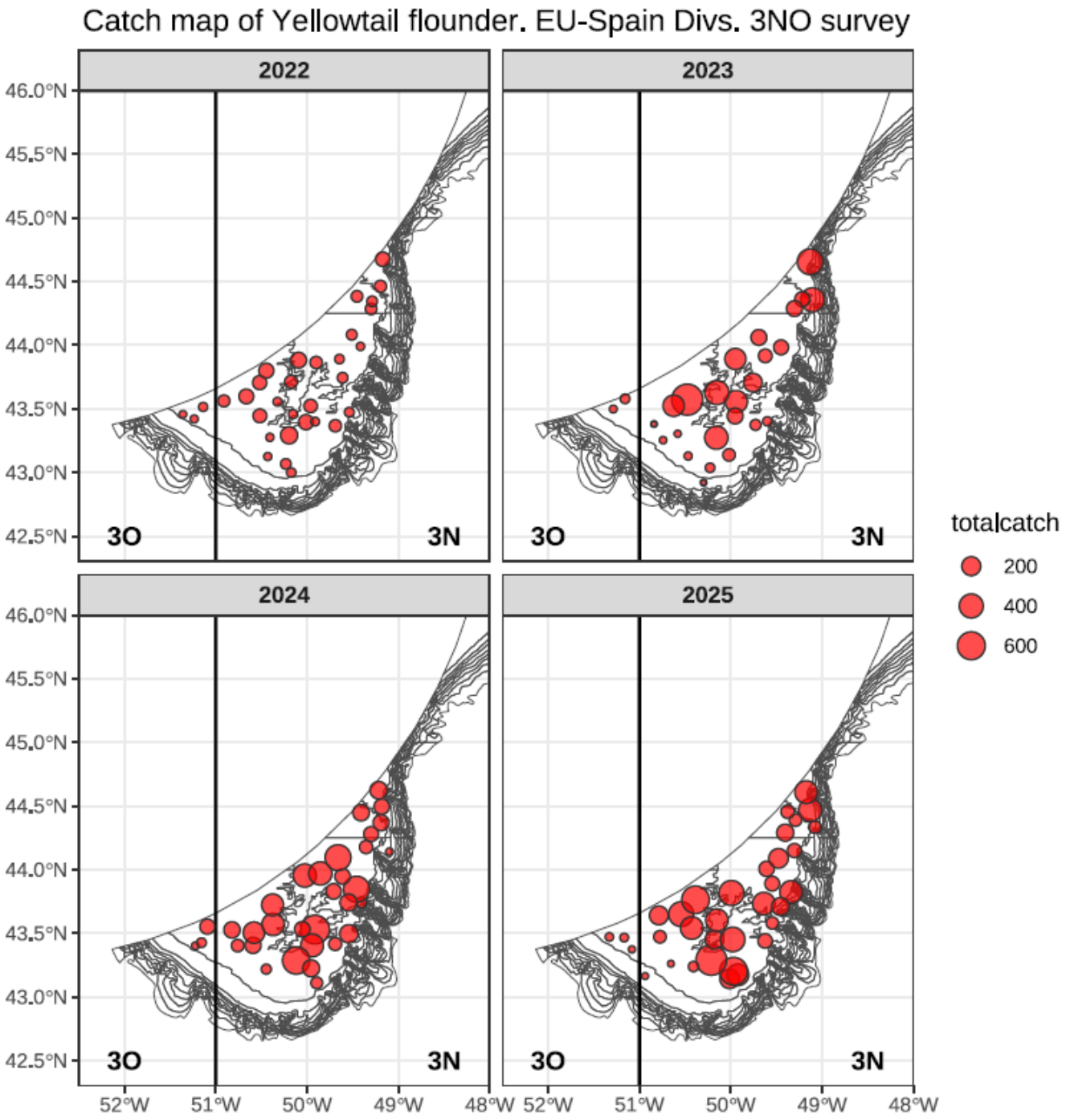

Figure 12. Yellowtail flounder. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

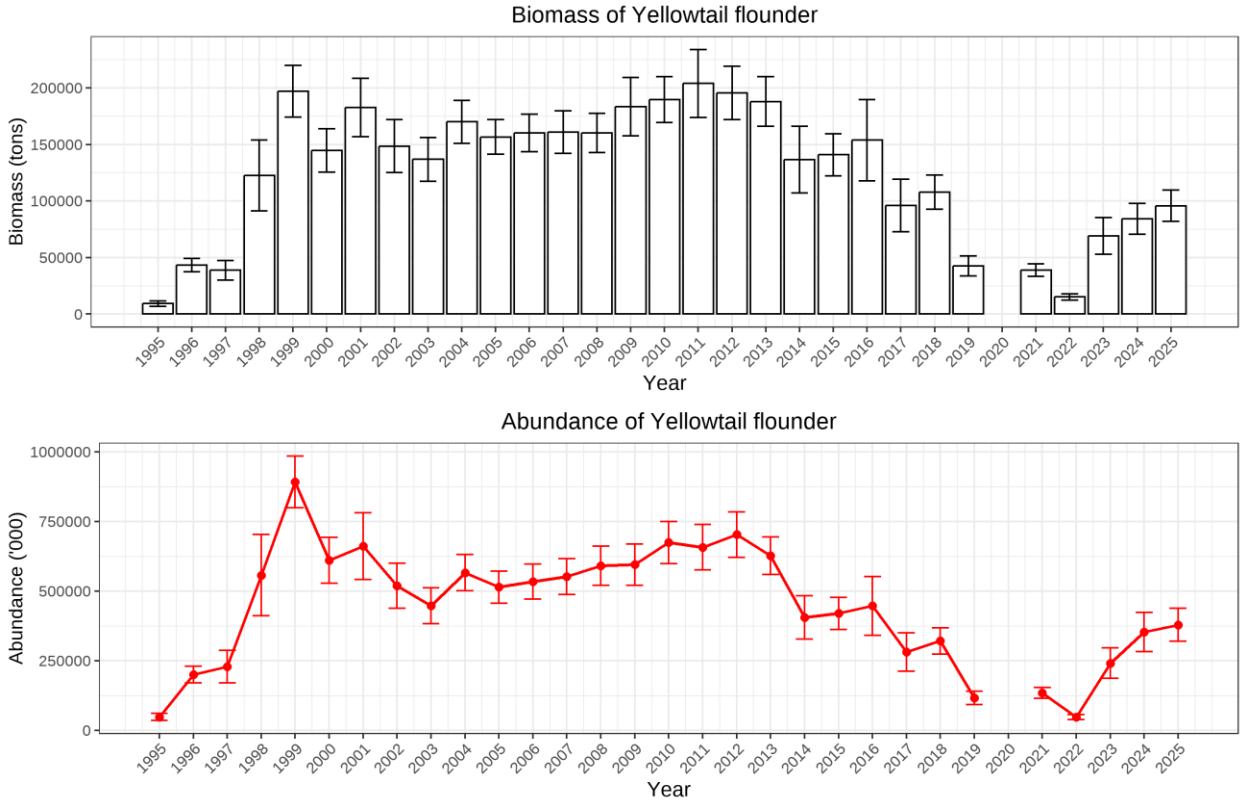

Figure 13. Yellowtail flounder total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

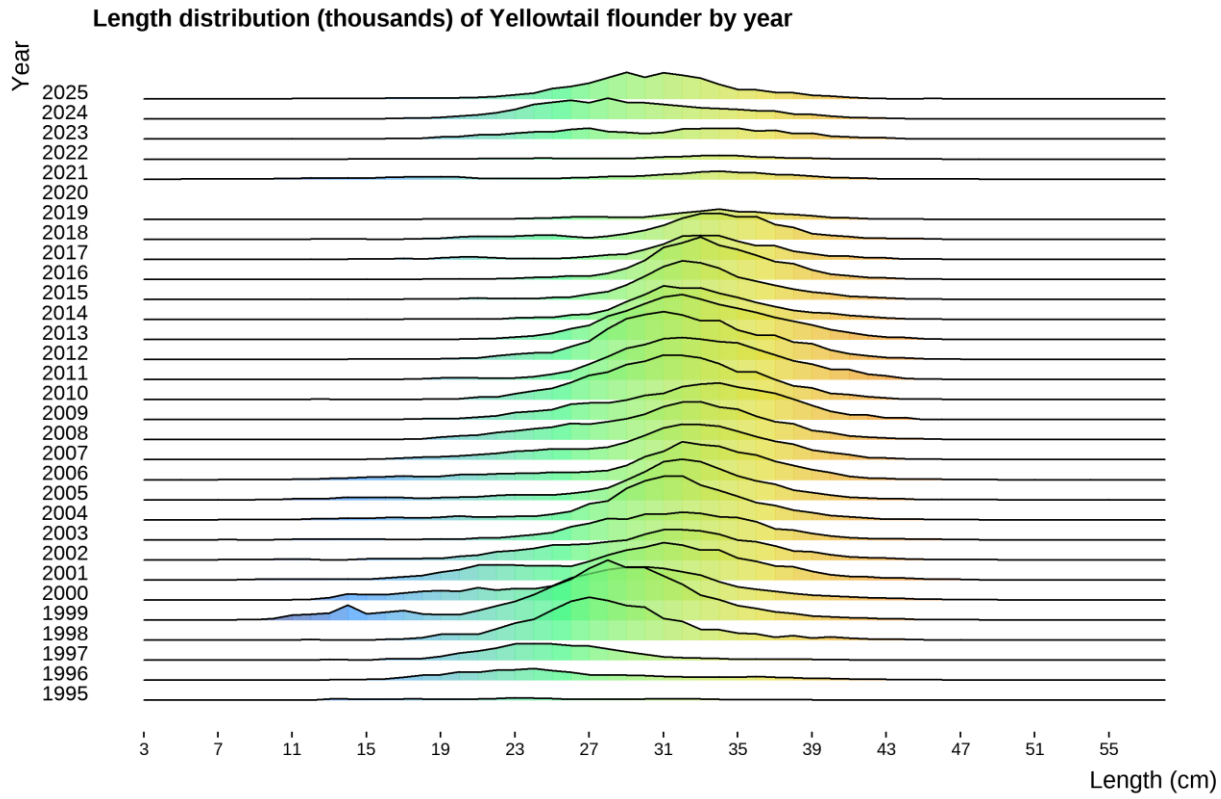

Figure 14. Yellowtail flounder total length (cm) distribution. EU-Spain Divs. 3NO survey.

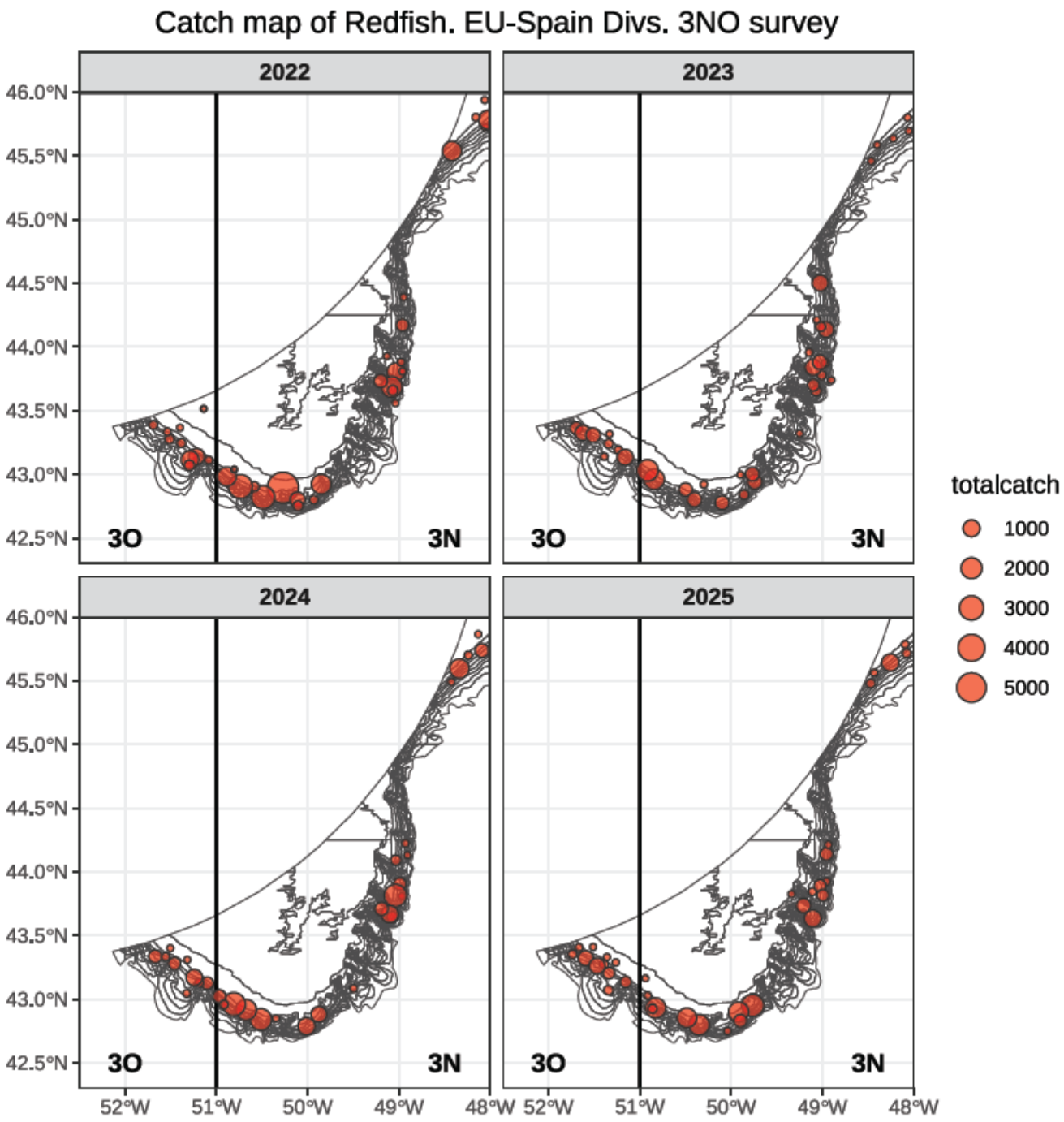

Figure 15. Redfish. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

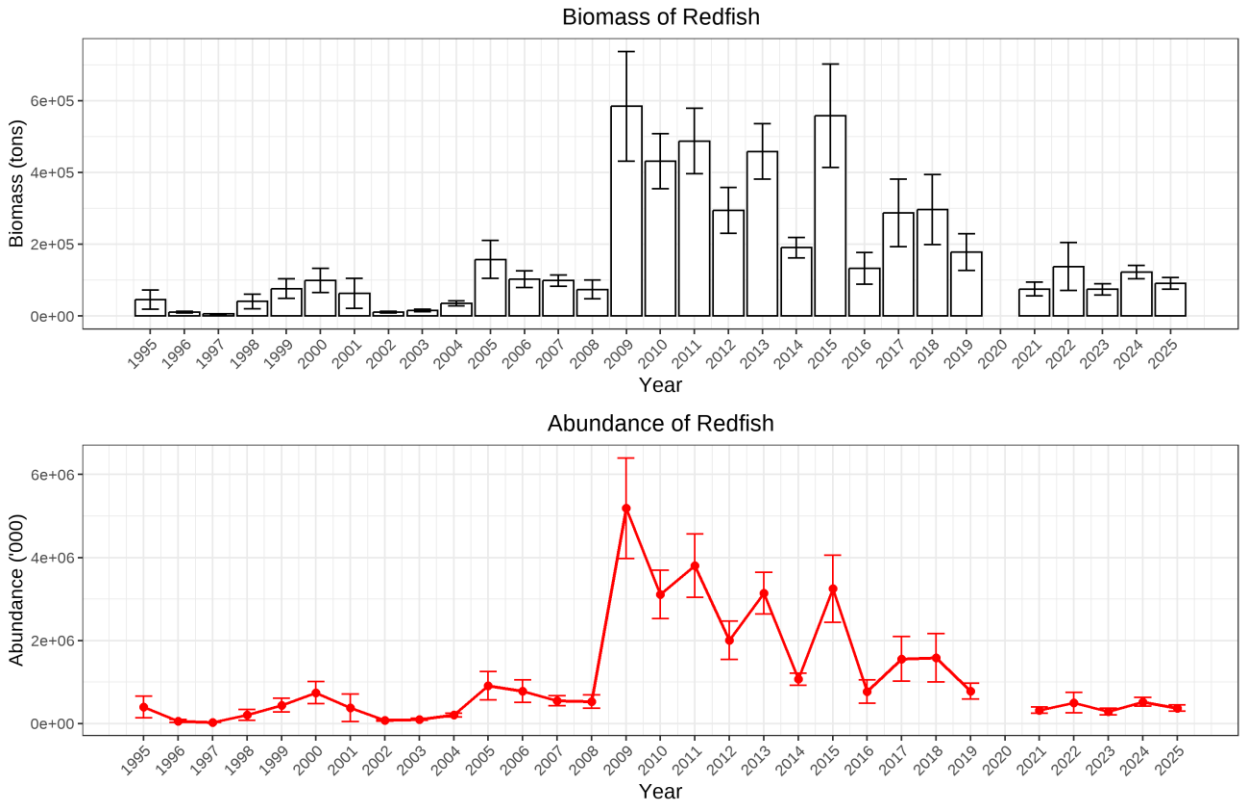

Figure 16. Redfish total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

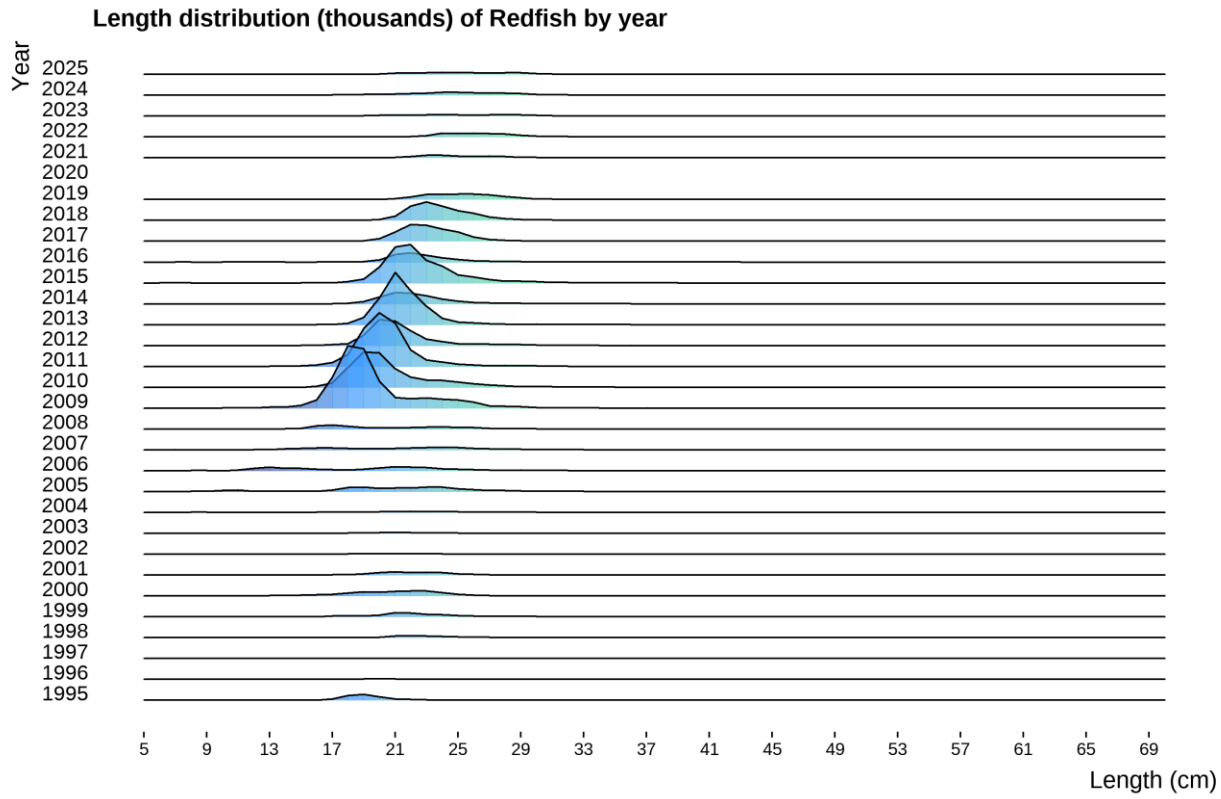

Figure 17. Redfish total length (cm) distribution. EU-Spain Divs. 3NO survey.

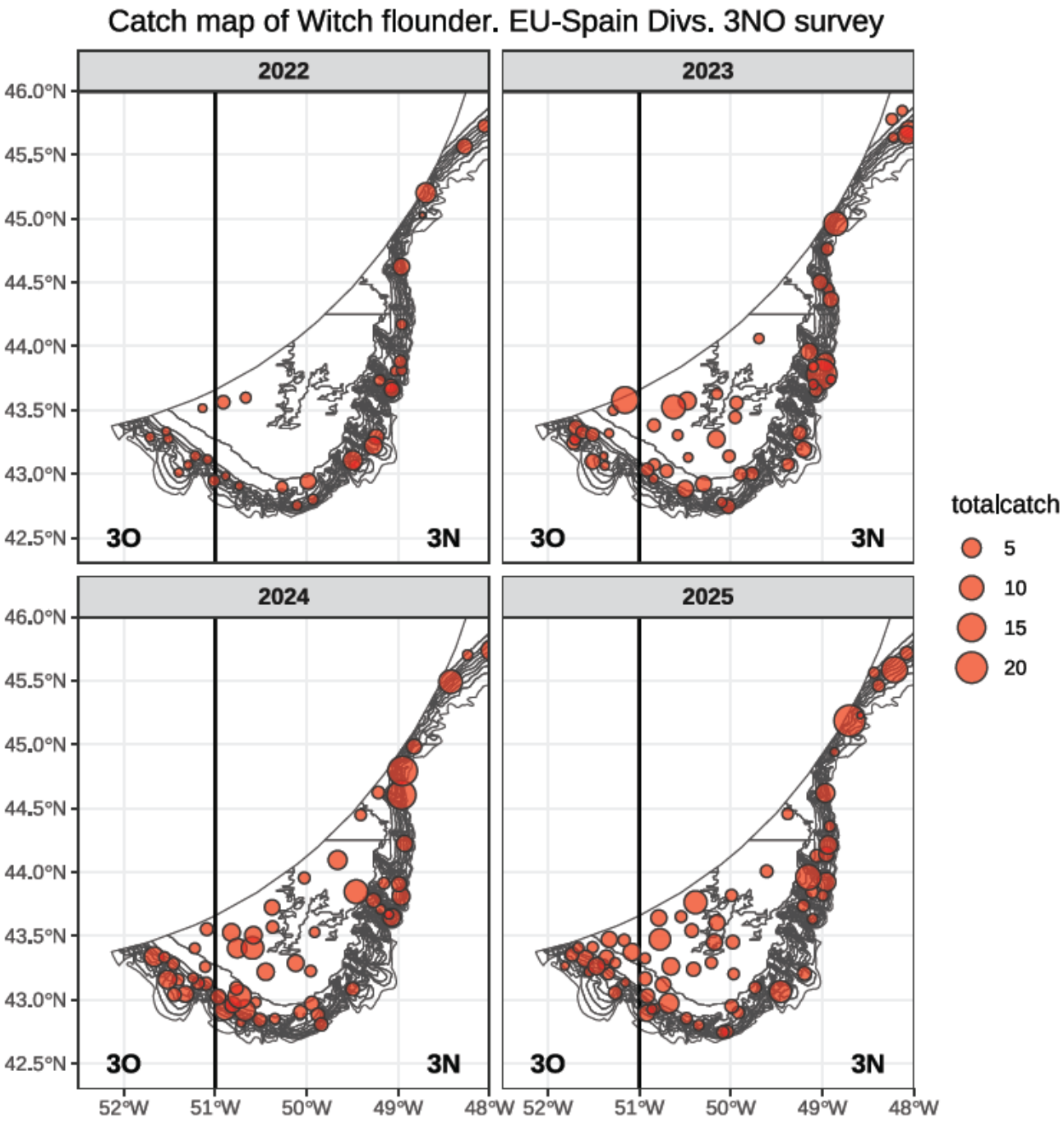

Figure 18. Witch flounder. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

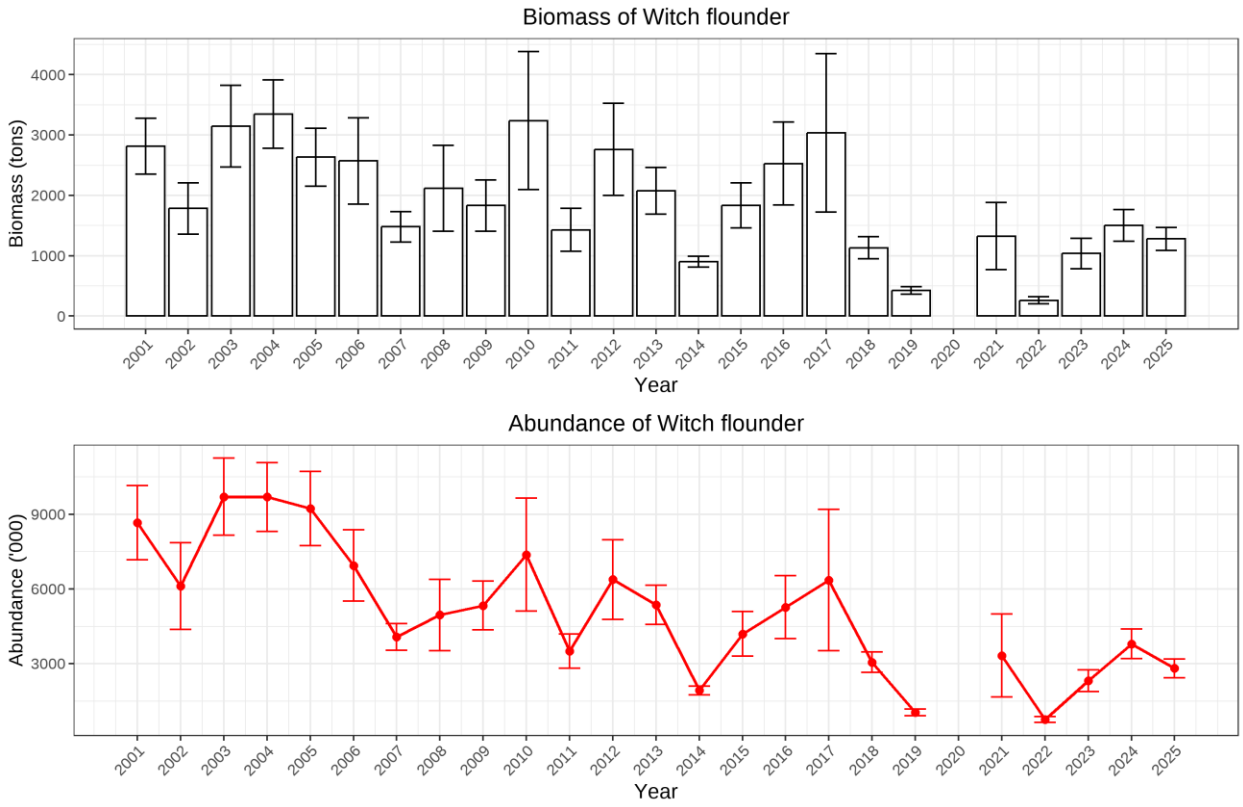

Figure 19. Witch flounder total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

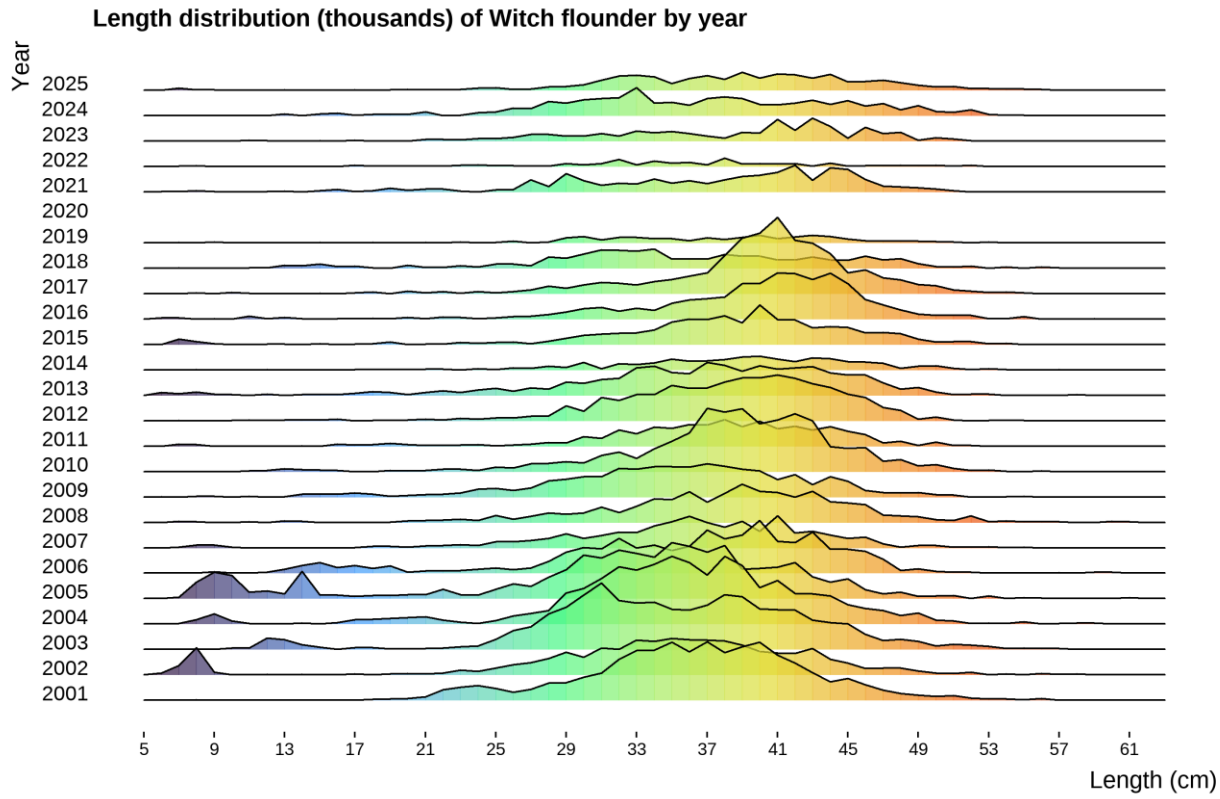

Figure 20. Witch flounder total length (cm) distribution. EU-Spain Divs. 3NO survey.

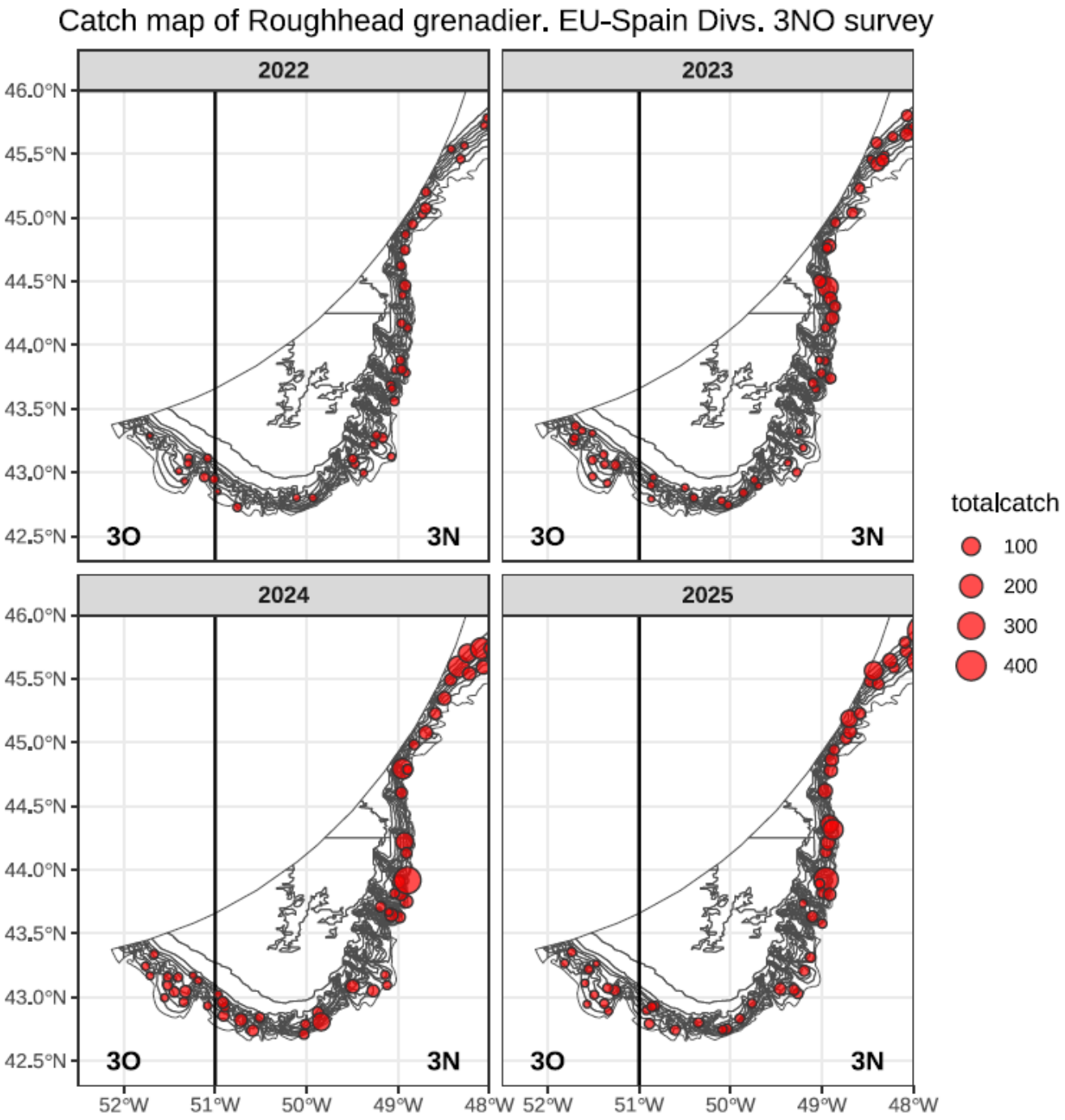

Figure 21. Roughhead grenadier. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

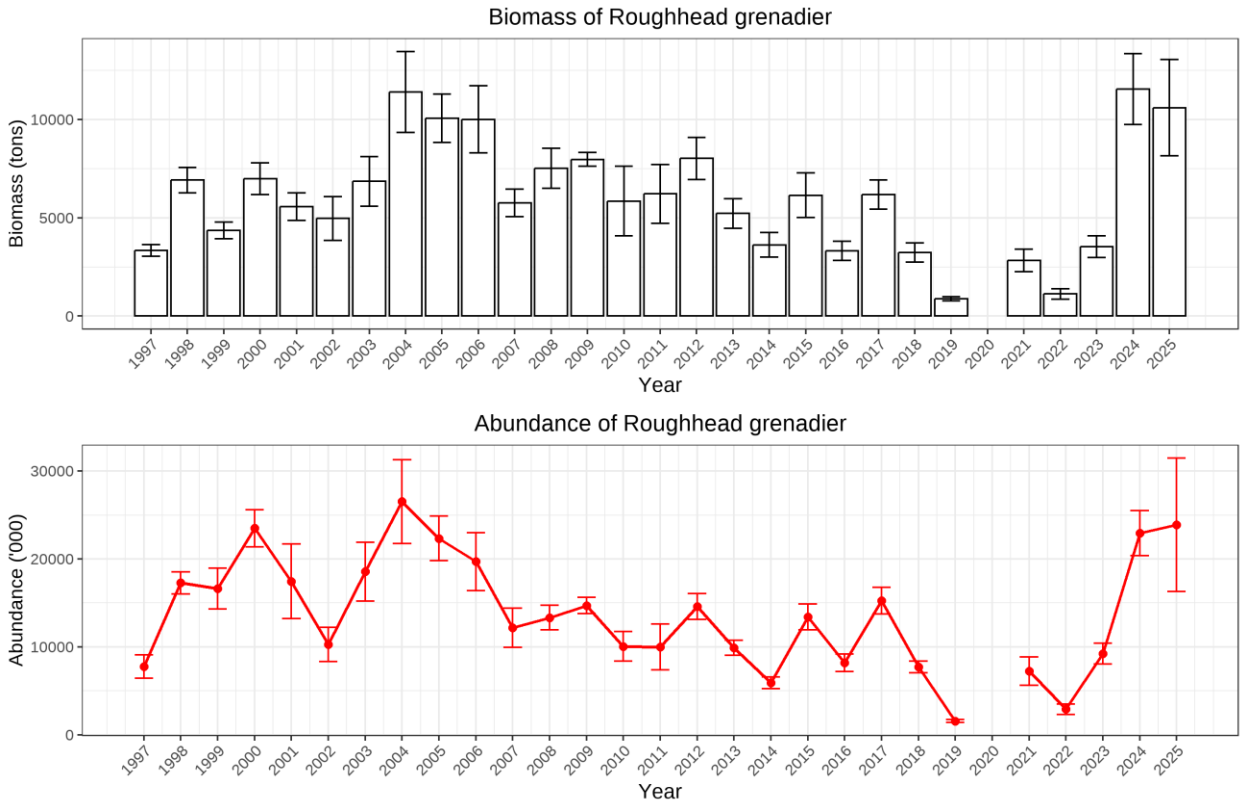

Figure 22. Roughhead grenadier total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

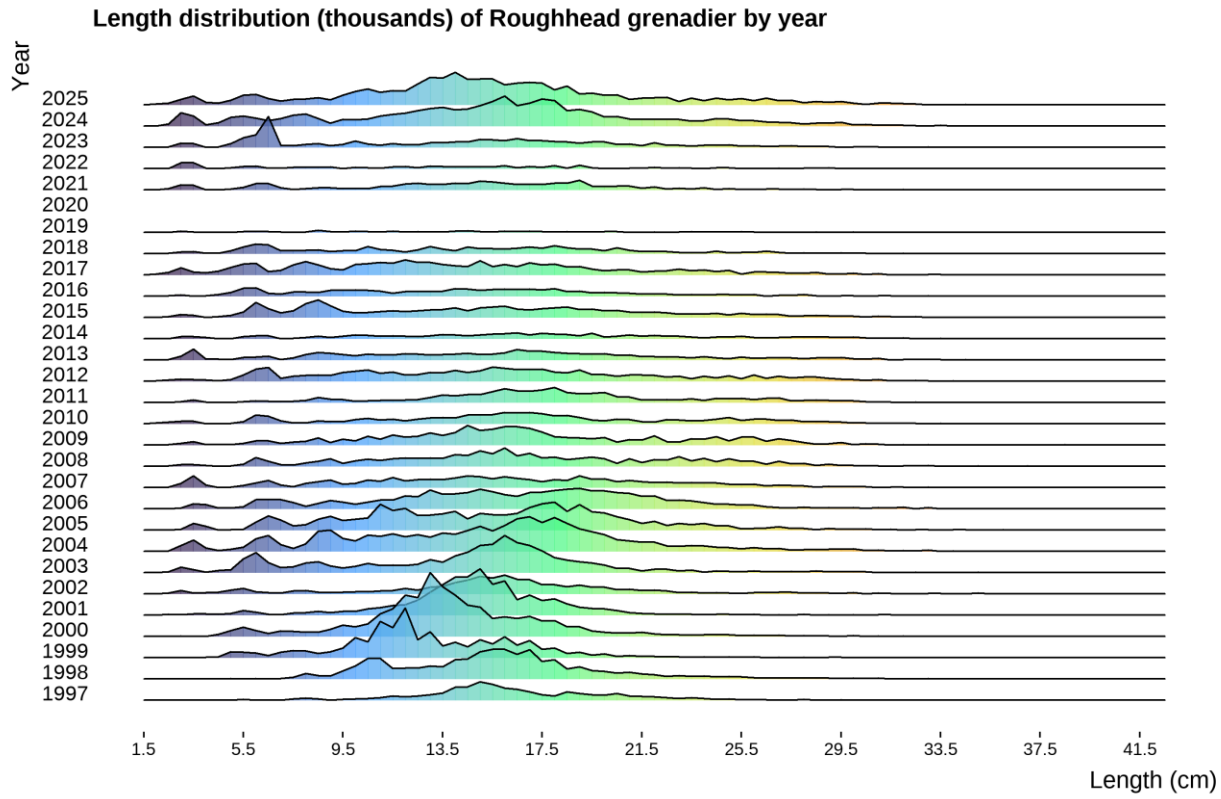

Figure 23. Roughhead grenadier total length (cm) distribution. EU-Spain Divs. 3NO survey.

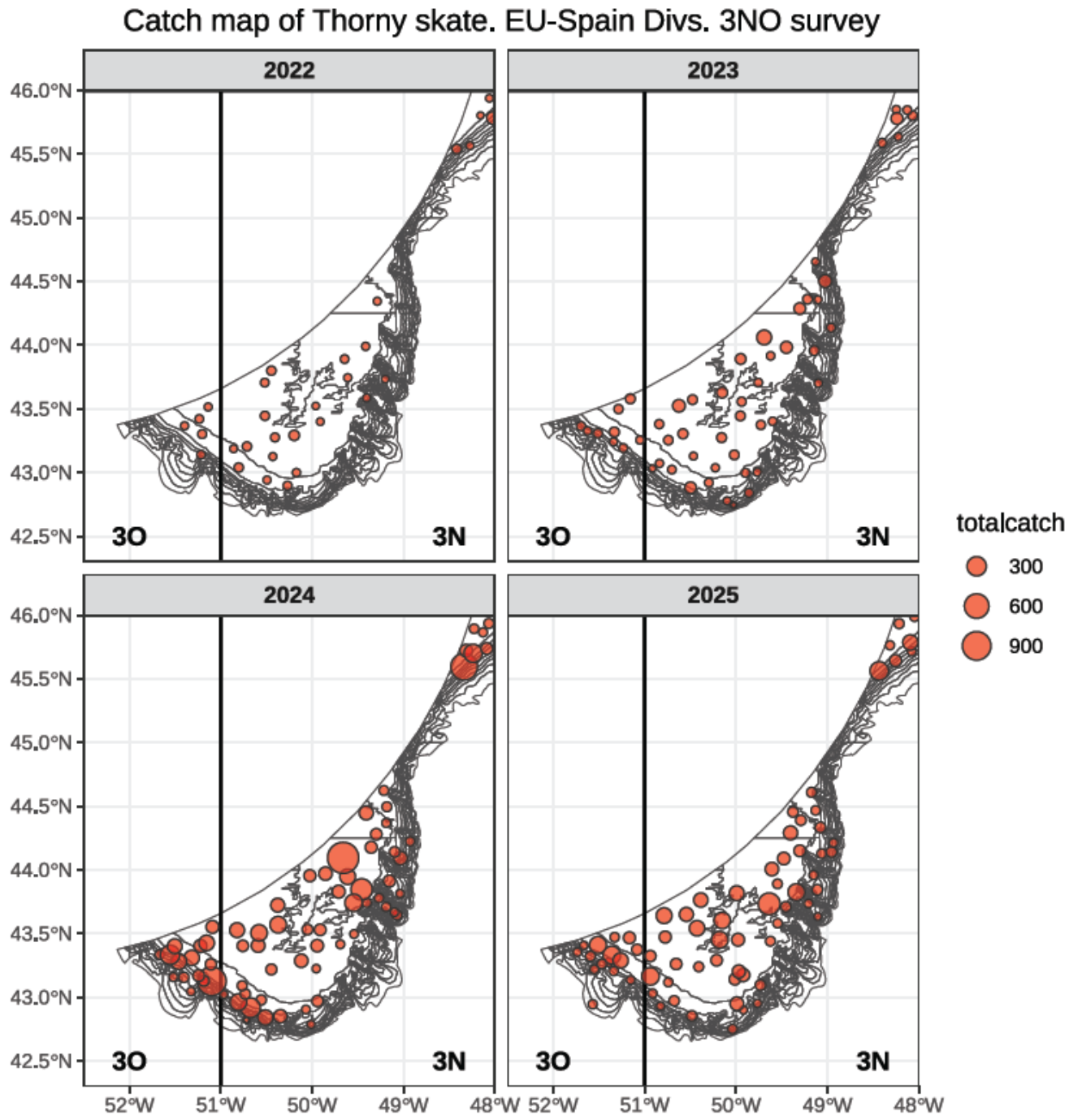

Figure 24. Thorny skate. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

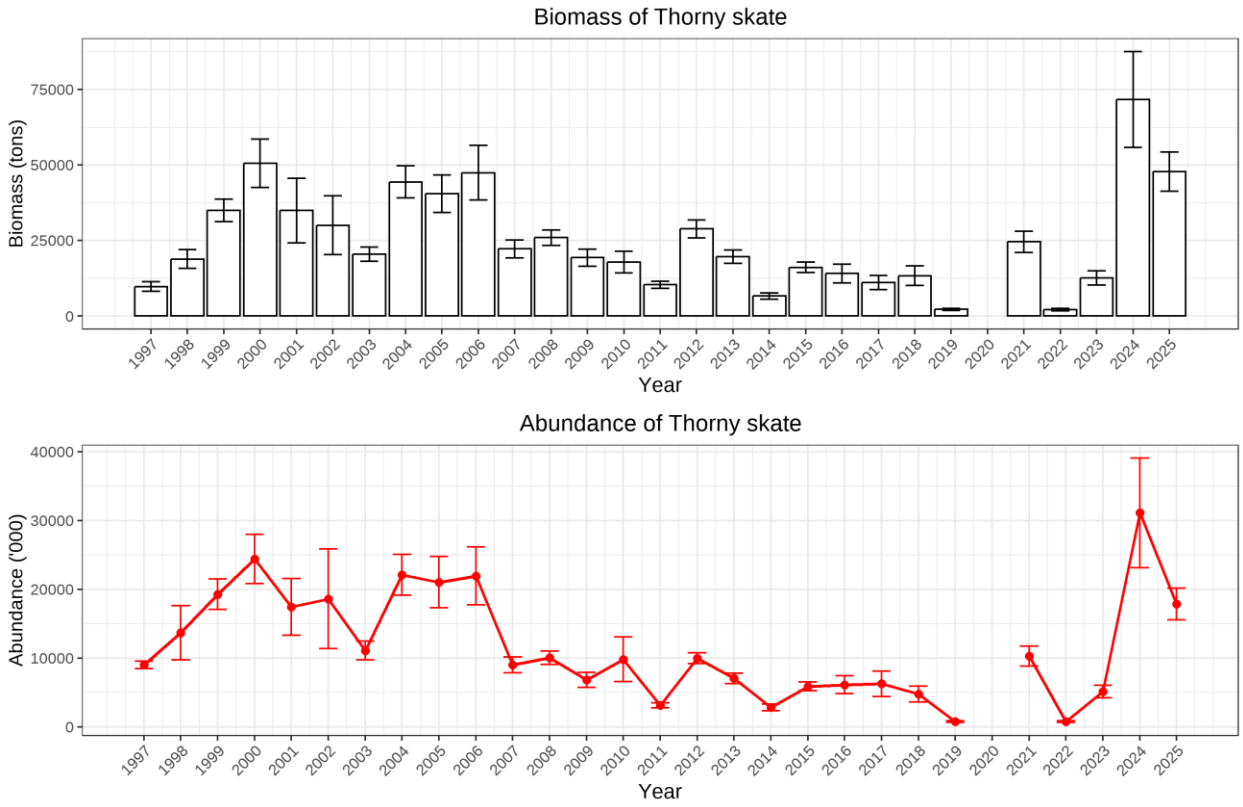

Figure 25. Thorny skate total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

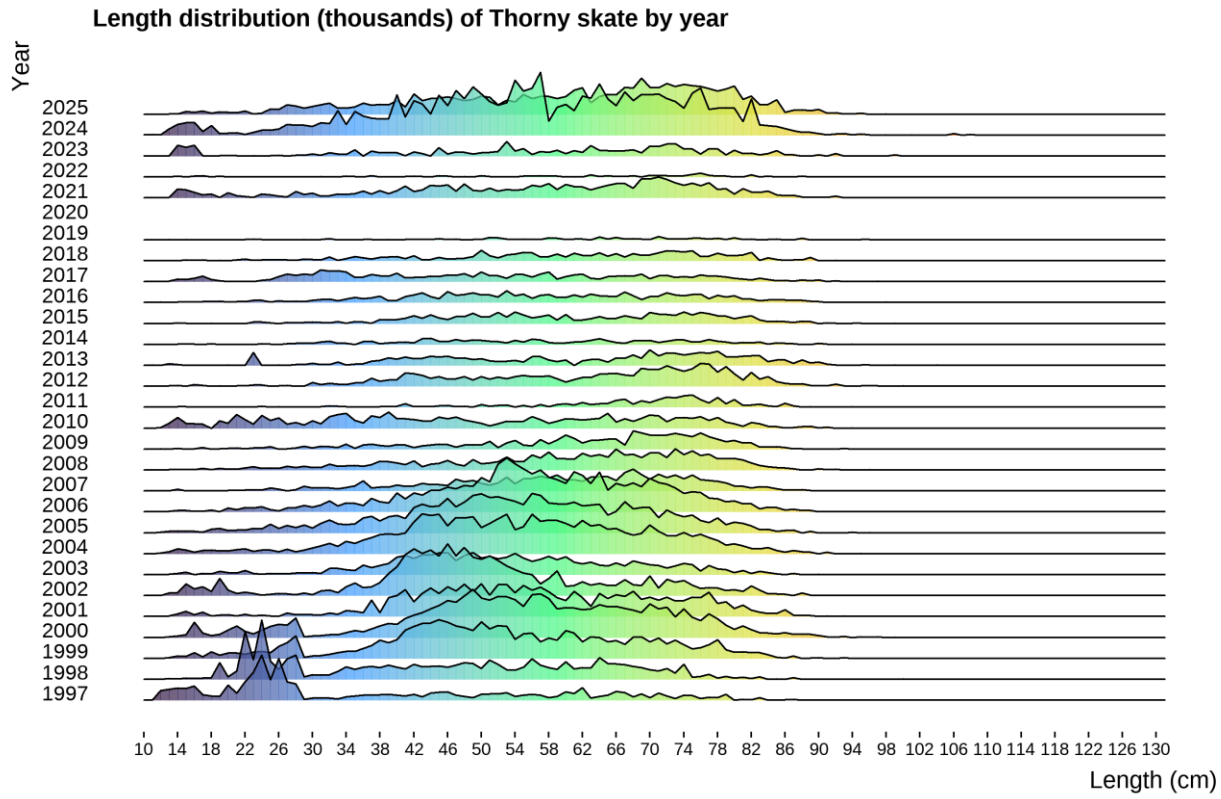

Figure 26. Thorny skate total length (cm) distribution. EU-Spain Divs. 3NO survey.

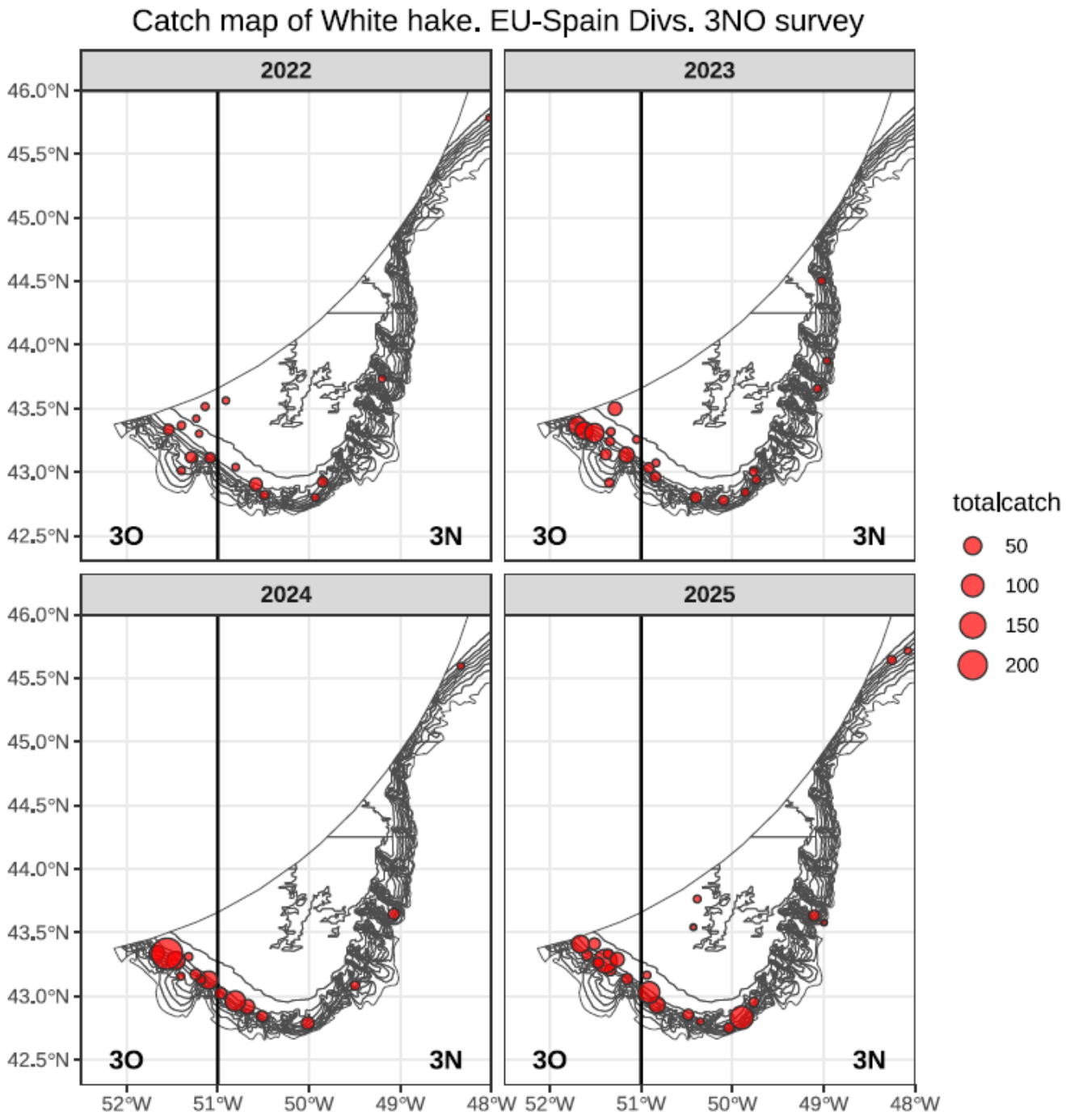

Figure 27. White hake. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

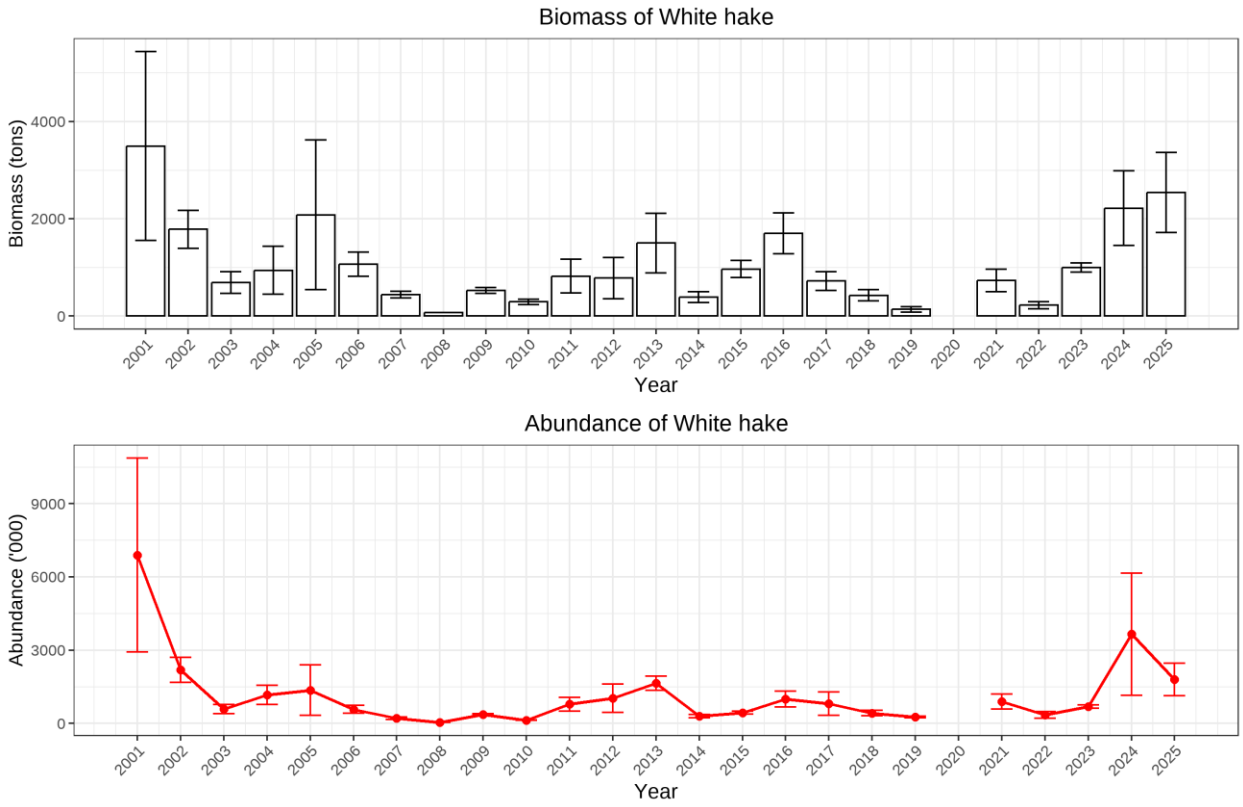

Figure 28. White hake total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

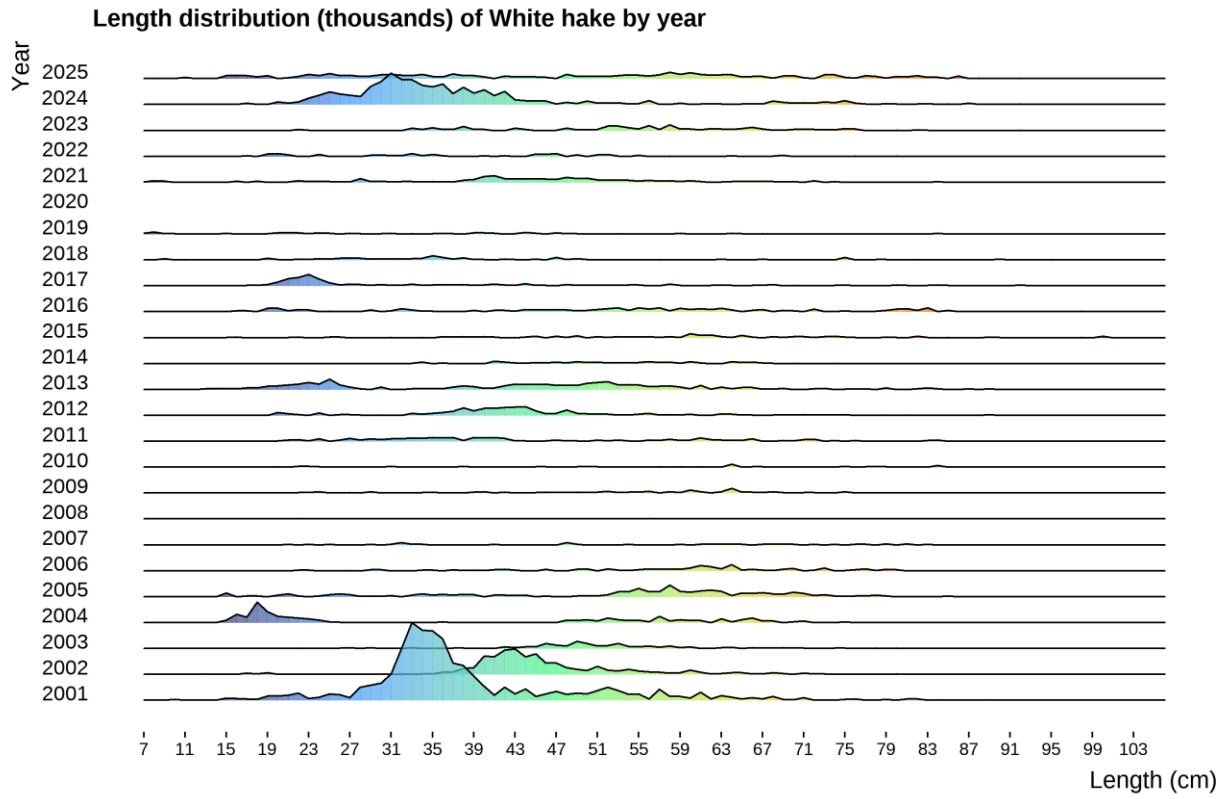

Figure 29. White hake total length (cm) distribution. EU-Spain Divs. 3NO survey.

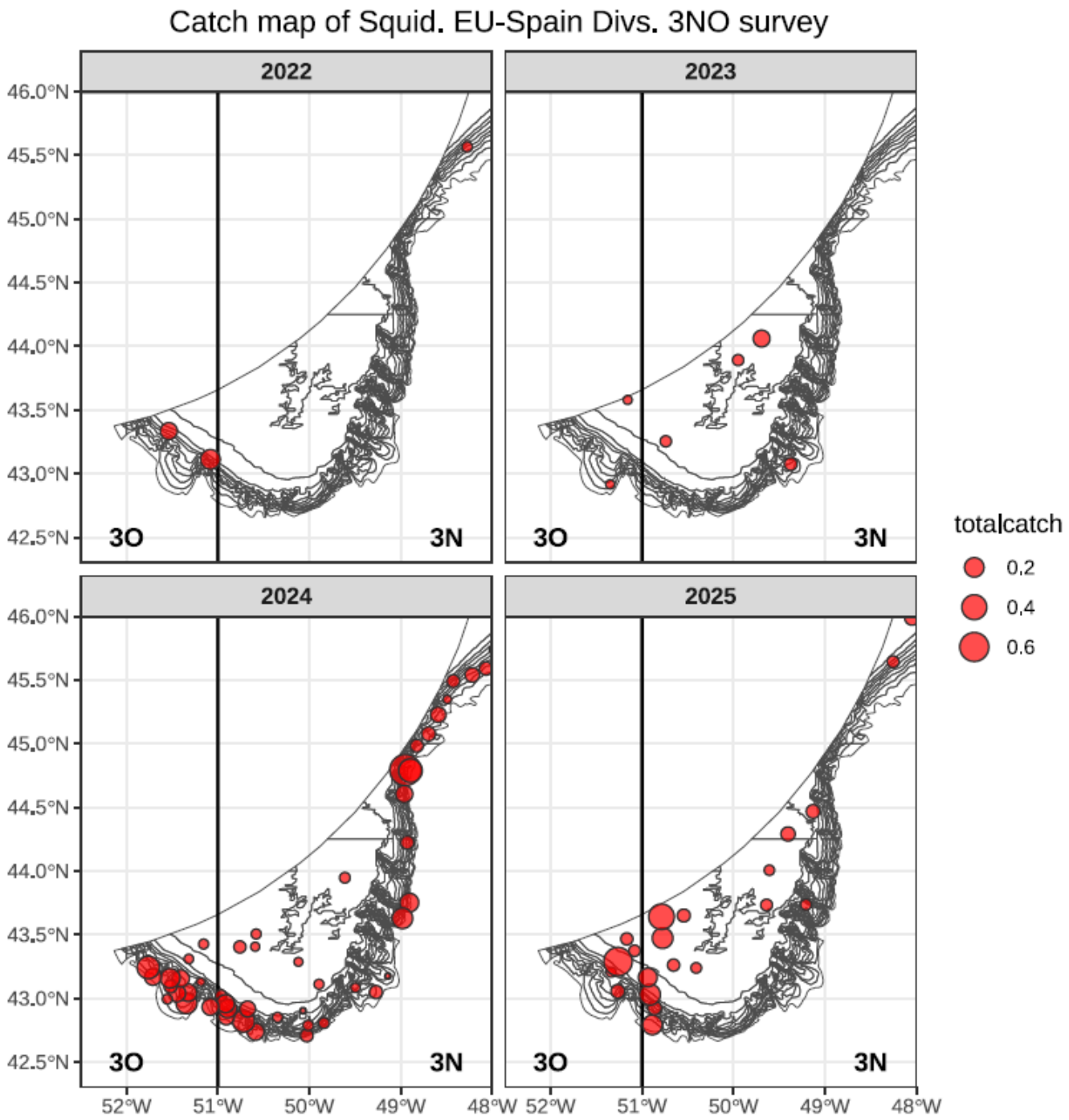

Figure 30. Squid. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

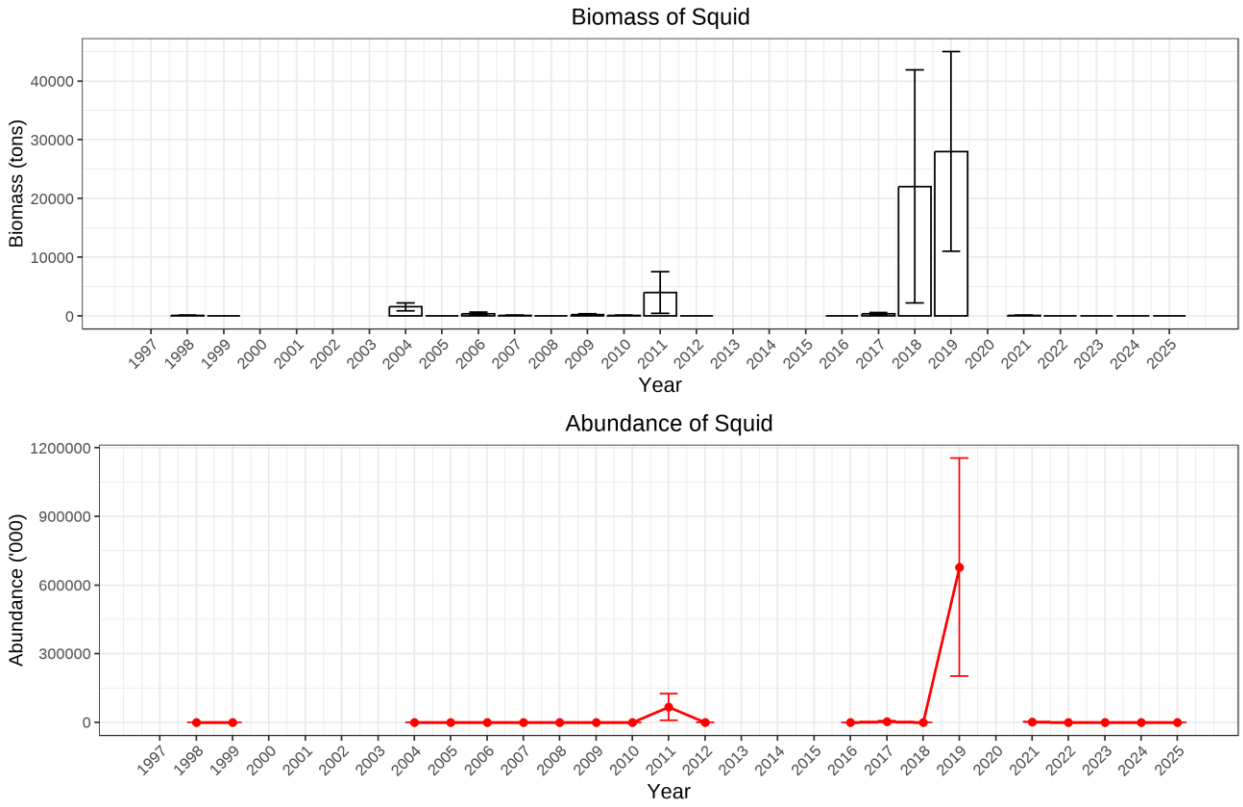

Figure 31. Squid total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

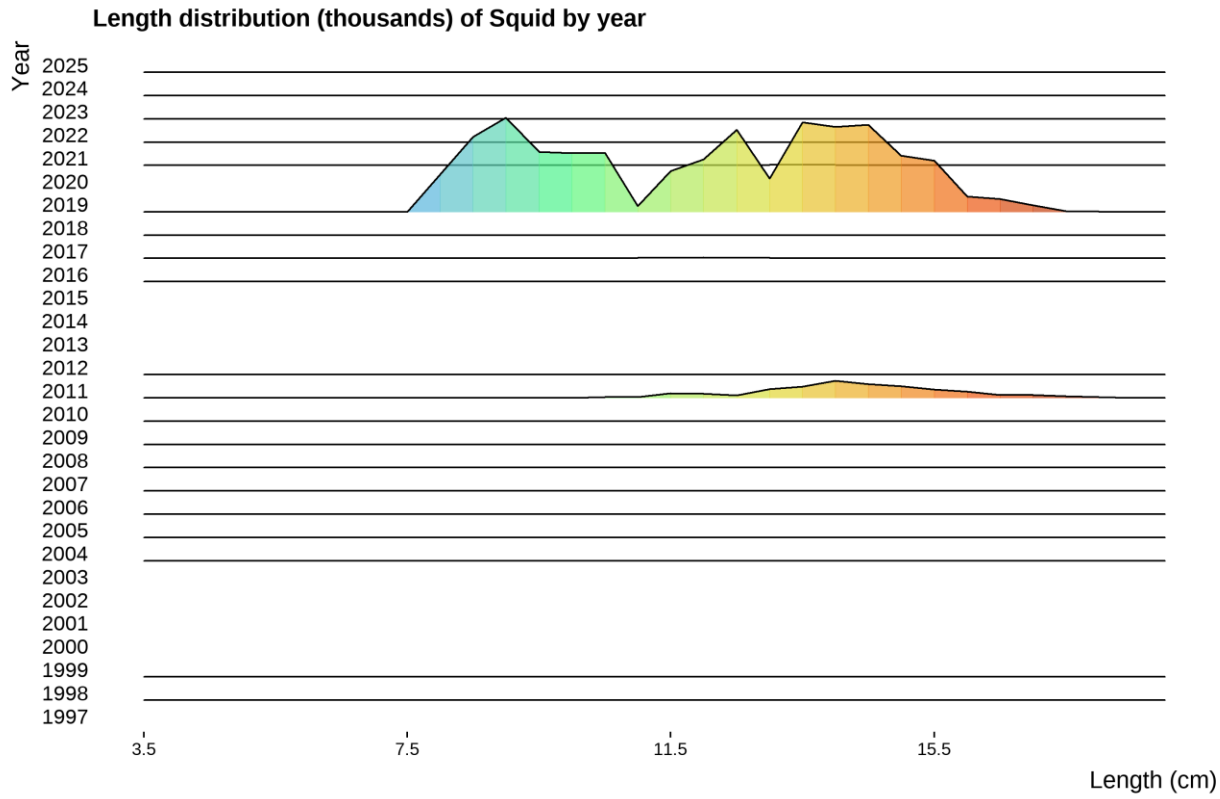

Figure 32. Squid total length (cm) distribution. EU-Spain Divs. 3NO survey.

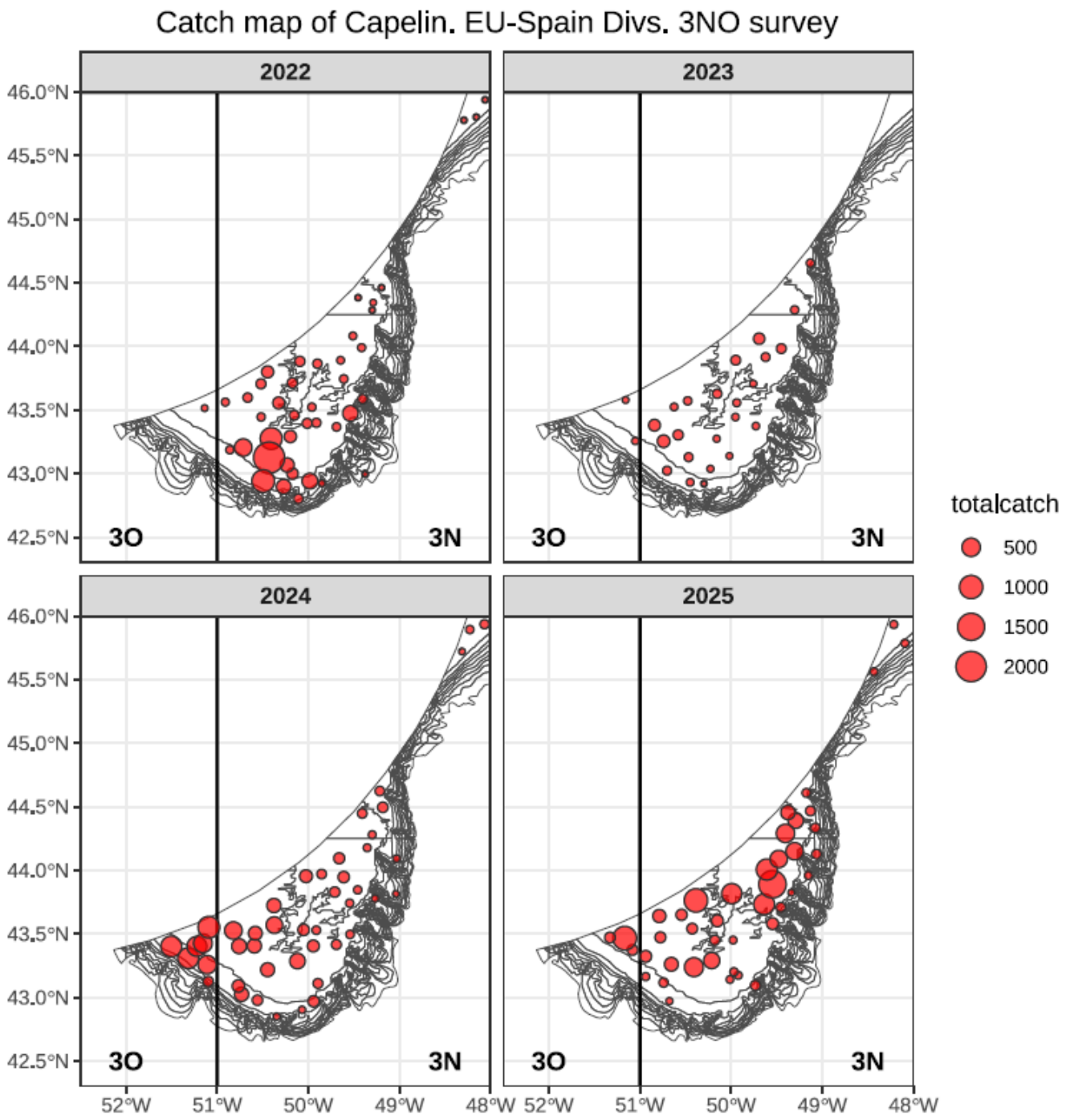

Figure 33. Capelin. Position of the hauls with catch in the last four years for the EU-Spain Divs. 3NO survey.

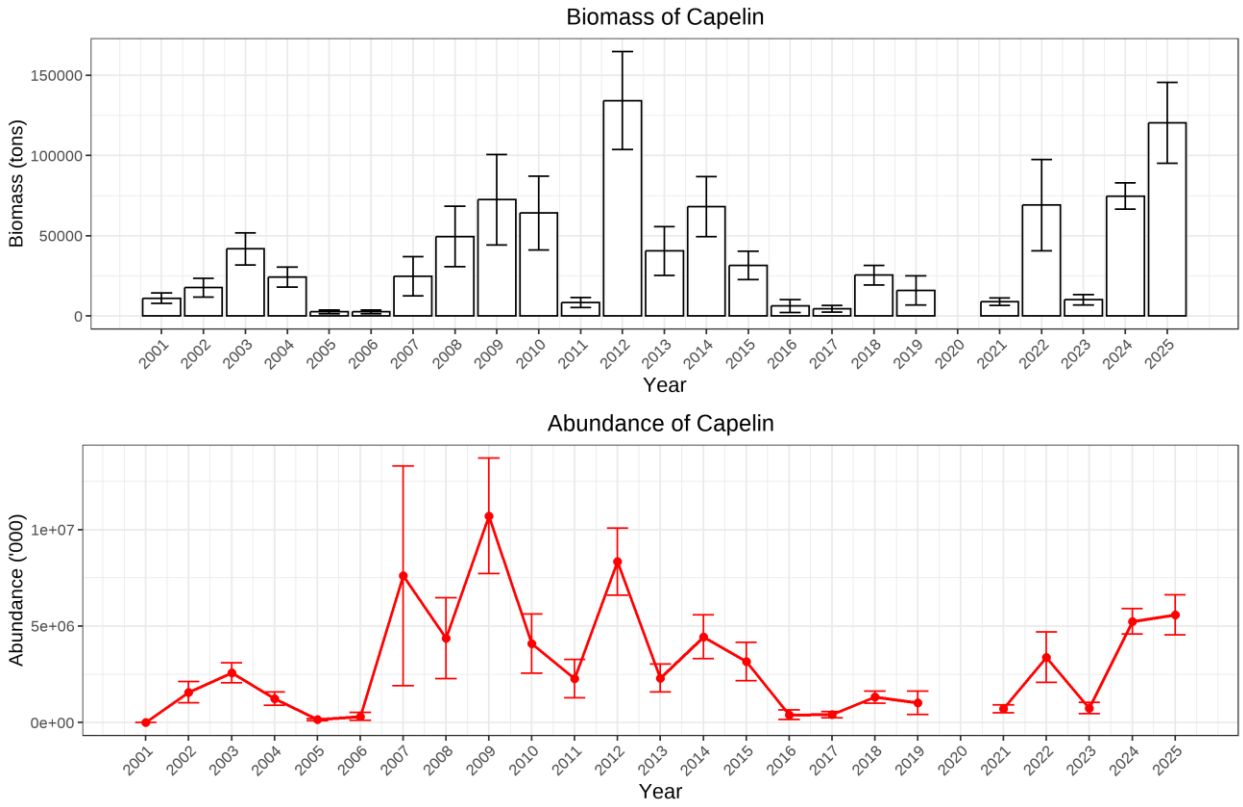

Figure 34. Capelin total biomass (tons) and abundance (thousands) and SD by year. EU-Spain Divs. 3NO survey.

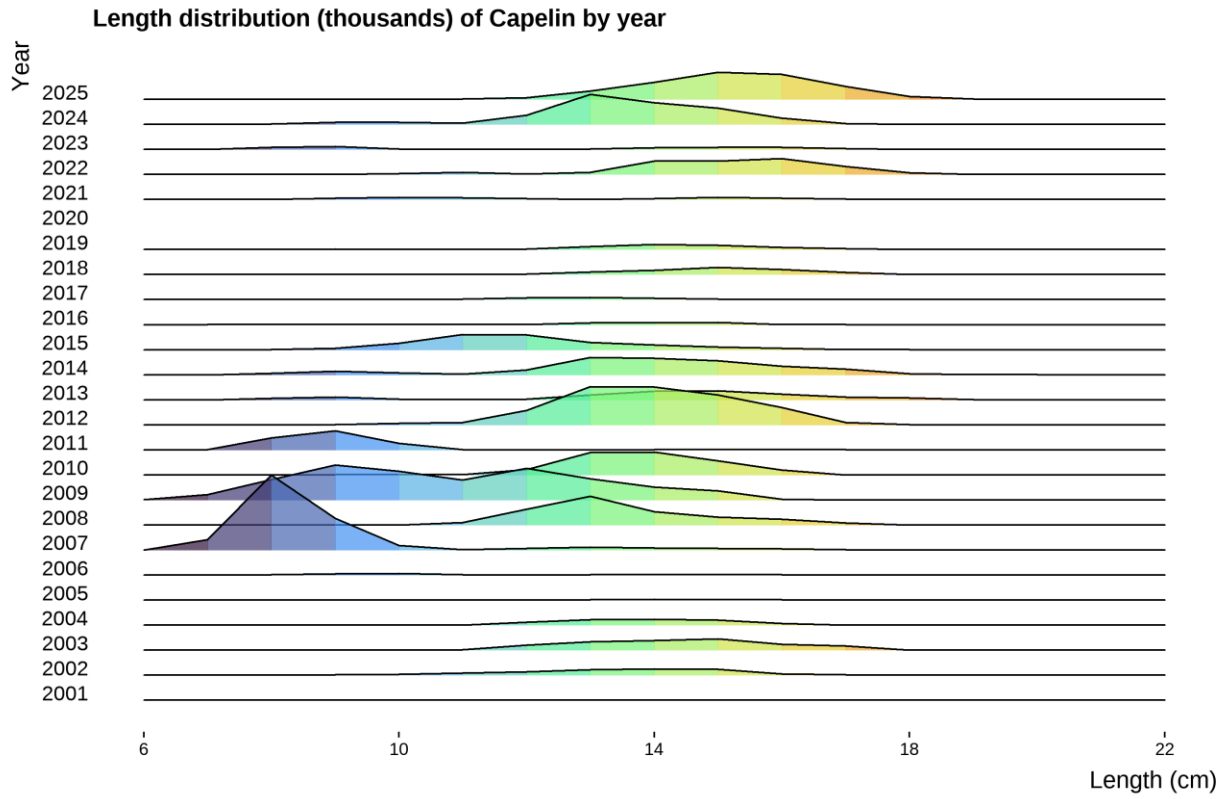

Figure 35. Capelin total length (cm) distribution. EU-Spain Divs. 3NO survey.

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