

# LONG ROUGH DAB – SKRÁPFLÚRA

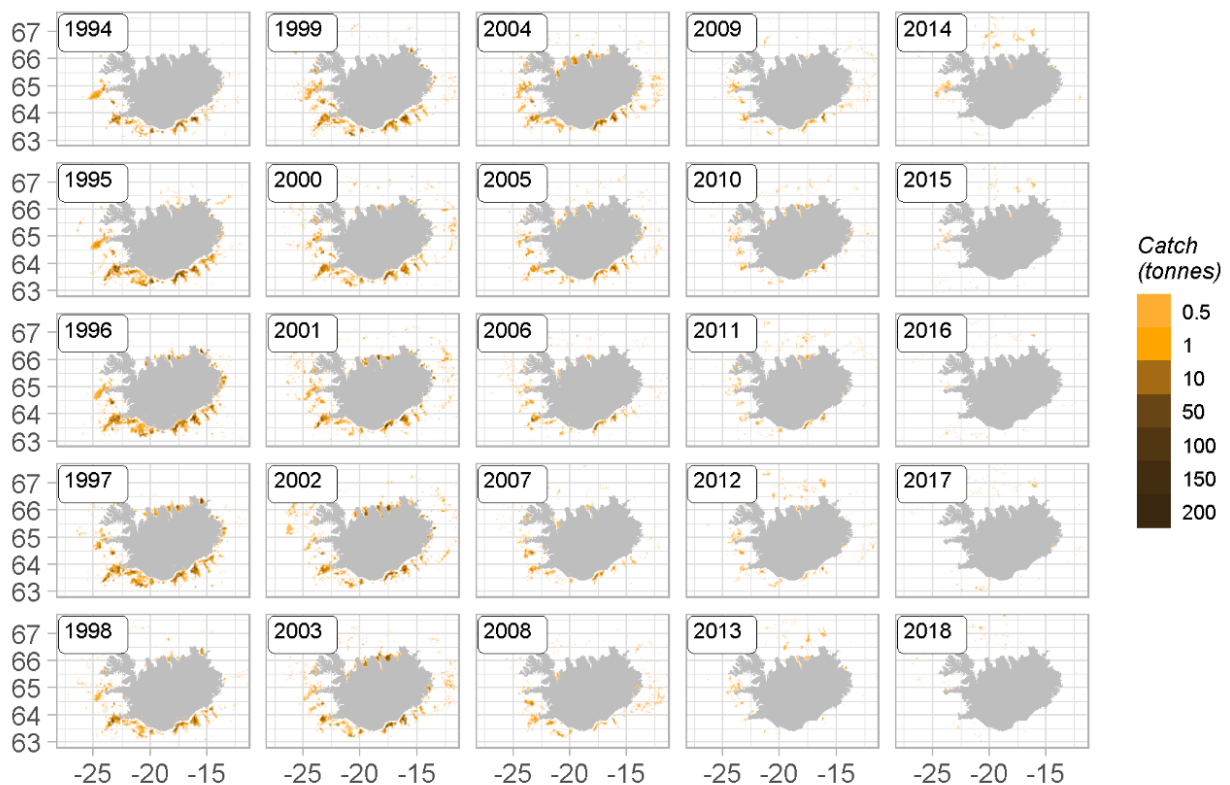
## *Hippoglossoides platessoides*

### GENERAL INFORMATION

Long rough dab is common all around Iceland. It is a demersal species on a sandy or muddy substrate, occurring at depths ranging from 10-400 m, but has been caught down to 1200 m. Growth is relatively slow and females grow considerably larger than males. Only a small proportion of males become longer than 30 cm, while about the same proportion of females grow larger than 45 cm. Size at sexual maturity differs between the sexes. At the length of 11.5 cm about half the males have reached maturity at the south coast, females reach that level at 17.5 cm. Because of this difference in size, the fishery for long rough dab is largely based on “old” females.

### THE FISHERY

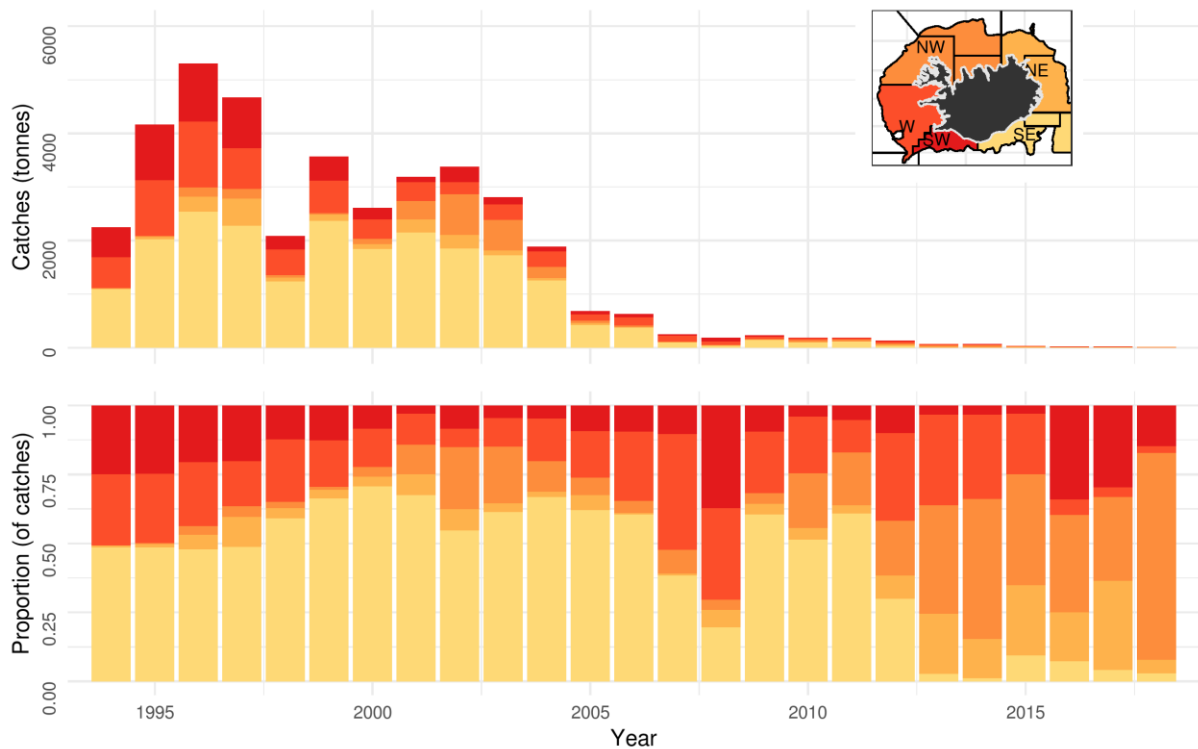
The geographical distribution of the long rough dab fisheries has remained more or less unchanged in recent years (Figure 1). Long rough dab fishing grounds in 1994-2018, as reported by mandatory logbooks, are shown on Figure 1.



**Figure 1. Long rough dab. Geographical distribution of the Icelandic fishery since 1994. Reported catch from logbooks.**

*Mynd 1. Skrápflúra. Útbreiðsla veiða á Íslandsmiðum frá 1994 samkvæmt aflagagbókum.*

The main fishing grounds for long rough dab were in the south east of the Icelandic shelf (Figure 2) according to logbook entries. Reported catch has however, decreased drastically in the SE area meanwhile catch in the NW and NE areas increased and in 2018, 75% of the catch was reported from the NW area.



**Figure 2. Long rough dab. Spatial distribution of the Icelandic fishery by fishing area from 1994-2018. All gears combined.**  
*Mynd 2. Skrápflúra. Útbreiðsla veiða við Ísland árin 1994-2018. Öll veiðarfæri samanlagt.*

Historically, most of the long rough dab was caught at less than 200 m depth, but since 2013 the little catch there is was caught in deeper water (Figure 3).

In Icelandic fishing grounds, long rough dab is mainly caught in demersal seine and bottom trawl, or approximately 70% of total landings (Figure 4, Table 1). Since 2000, 1-48 trawlers and 1-57 seiners have reported annual catches over a tonne of long rough dab. The numbers of trawlers and seiners have decreased in the last 17 years and only 4 vessels landed over a tonne in 2018.

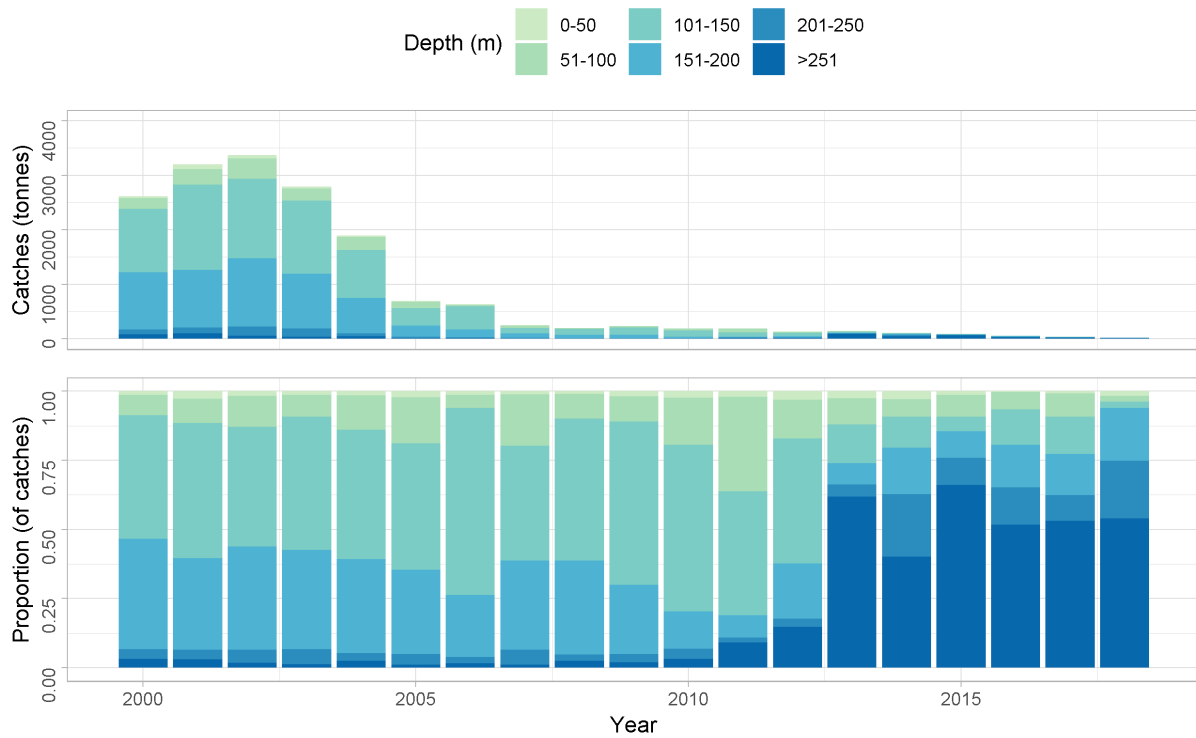


Figure 3. Long rough dab. Depth distribution catches according to logbooks.

Mynd 3. Skrápflúra. Afli samkvæmt afladagbókum, skipt eftir dýpi.

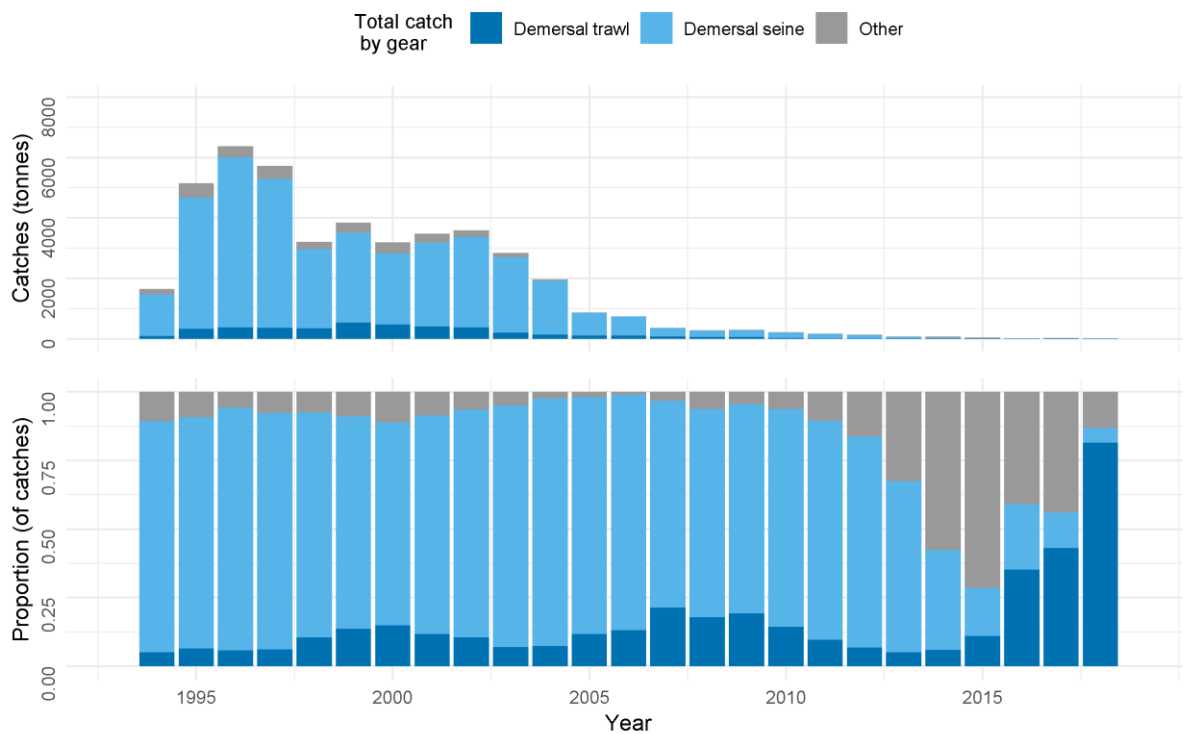


Figure 4. Long rough dab. Total catch (landings) by fishing gear since 1994.

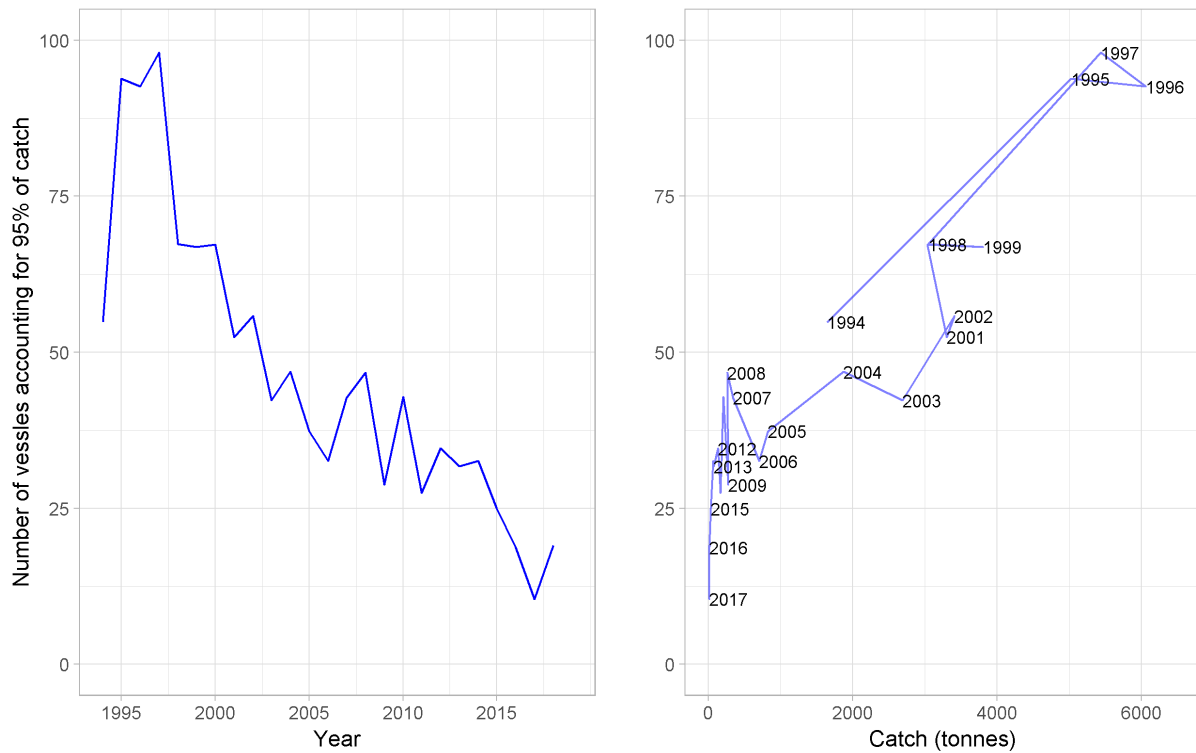
Mynd 4. Skrápflúra. Landaður afli eftir veiðarfærum frá 1994.

**Table 1. Long rough dab. Number of Icelandic vessels landing 1000 kg or more of long rough dab, and all landed catch divided by gear type.**

*Tafla 1. Skrápflúra. Fjöldi íslenskra skipa sem landað hafa 1000 kg eða meira af skrápflúru og allur landaður afli eftir veiðarfærum.*

YEAR	NUMBER OF VESSELS			CATCHES (TONNES)			
	<i>Seiners</i>	<i>Trawlers</i>	<i>Other</i>	<i>Demersal seine</i>	<i>Demersal trawl</i>	<i>Other</i>	<i>Sum</i>
2000	57	48	22	2344	484	355	3183
2001	47	41	15	2772	410	288	3470
2002	46	43	21	2981	378	226	3585
2003	47	28	9	2493	199	139	2831
2004	51	23	5	1822	144	4	1970
2005	34	14	2	753	102	16	871
2006	28	15	1	639	100	6	745
2007	27	11	4	265	83	10	358
2008	25	9	5	208	49	19	276
2009	15	6	2	222	56	12	290
2010	21	4	3	171	31	15	217
2011	12	2	3	139	17	22	178
2012	16	5	3	104	10	22	136
2013	11	0	2	49	4	25	78
2014	9	2	4	22	4	40	66
2015	3	1	5	6	4	21	31
2016	1	1	1	4	6	6	16
2017	1	3	1	2	8	8	18
2018	0	3	1	1	14	2	17

In 1995-1997, when annual catches of long rough dab were about 5000-6000 tonnes, around 100 vessels accounted for 95% of the catch (Figure 5). Since then, the number of vessels has dropped more or less proportionally to reduced catches.



**Figure 5. Long rough dab. Number of vessels (all gear types) accounting for 95% of the total catch annually since 1994. Left: Plotted against year. Right: Plotted against total catch. Data from the Directorate of Fisheries.**

**Mynd 5. Skrápflúra. Fjöldi skipa og báta (öll veiðarfæri) sem veiddu 95% heildaraflans hvert ár frá 1994. Vinstri: Sýnt eftir árum. Hægri: Sýnt í samanburði við heildarafla. Gögn frá aflaskráningarkerfi Fiskistofu.**

## SAMPLING OF LANDED LONG ROUGH DAB

As landings of long rough dab have been low and sporadic over the last ten years, samples have been hard to get, and no otoliths have been collected over the last four years (Table 2).

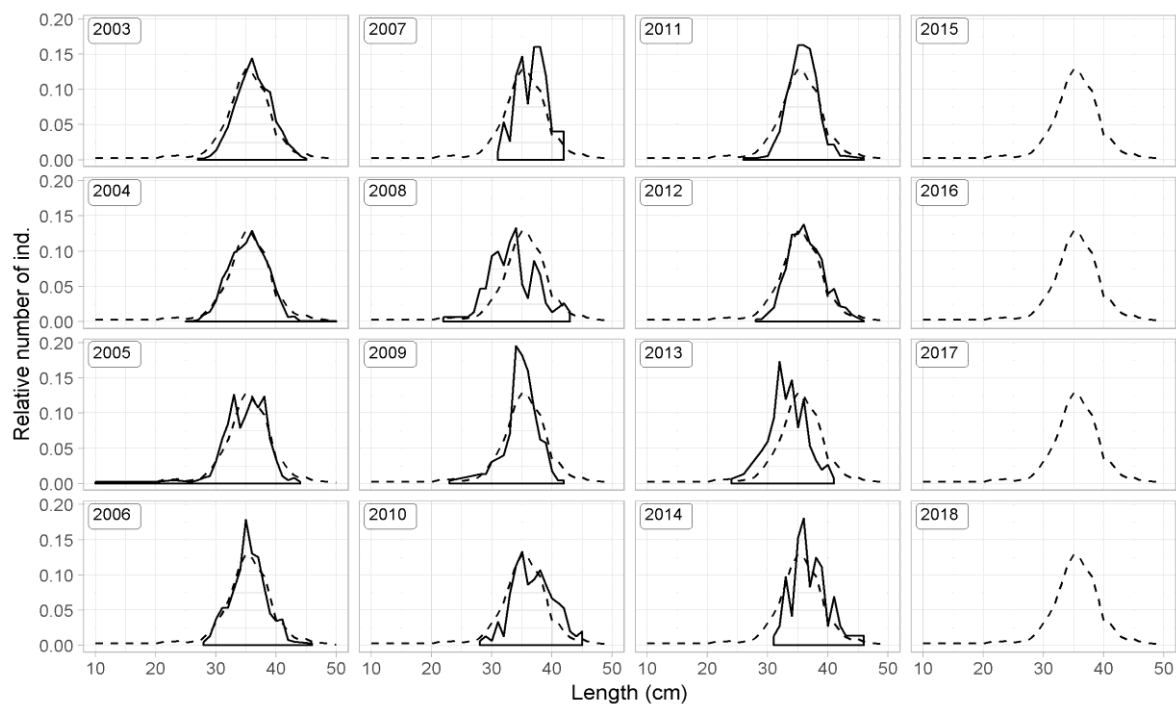
**Table 2. Long rough dab. Number of samples and aged otoliths from landed catch.**

*Tafla 2. Skrápflúra. Fjöldi sýna og aldursgreindra fiska úr lönduðum afla.*

Year	<i>Demersal seine</i>	
	Samples	Otoliths
2010	2	50
2011	3	125
2012	4	200
2013	1	50
2014	1	25
2015	0	0
2016	0	0
2017	0	0
2018	0	0

## LENGTH DISTRIBUTION OF LANDED LONG ROUGH DAB

During 1994-2004, the main fishing years for long rough dab, the length distribution of landings changed little from one year to another (Figure 6). The average length of females was 35-36 cm over the entire period.



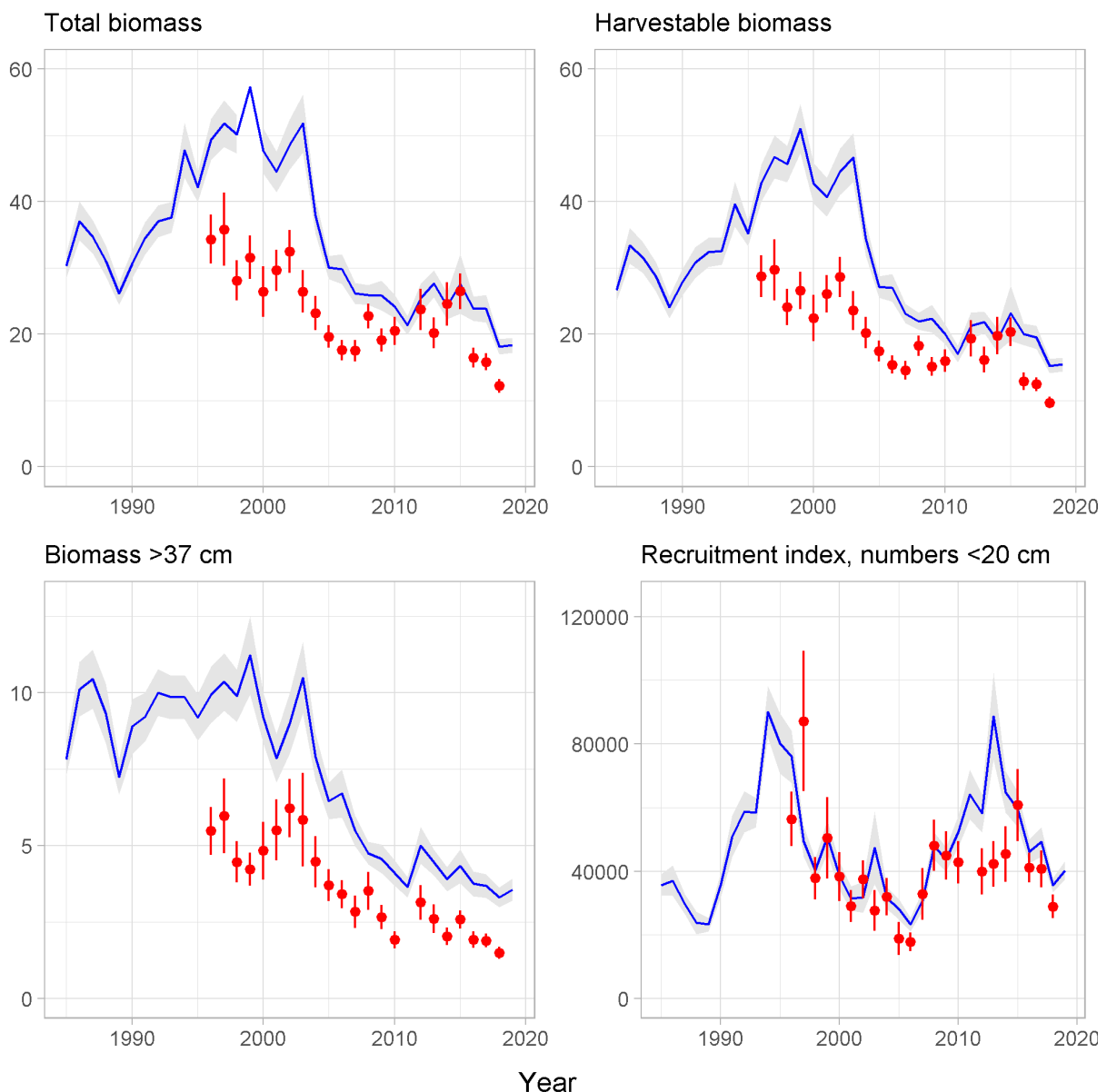
**Figure 6. Long rough dab. Length distribution of long rough dab sampled from landed catch. The dotted line represents the mean length distribution for all years.**

*Mynd 6. Skrápflúra. Lengdardreifing aflasýna frá árinu 2003 með meðallengdardreifingar fyrir öll árin (punktalína).*

## SURVEY DATA

The Icelandic spring groundfish survey (hereafter spring survey), which has been conducted annually in March since 1985, covers the most important distribution area of the long rough dab fishery. In addition, the Icelandic autumn groundfish survey (hereafter autumn survey) was commenced in 1996. However, a full autumn survey was not conducted in 2011 due to a labour dispute. The spring survey is considered to measure changes in abundance/biomass better than the autumn survey.

Figure 7 shows both a recruitment index based on abundance of long rough dab smaller than 25 cm, and trends in various biomass indices. Survey length disaggregated abundance indices are shown in Figures 8-9, abundance and changes in spatial distribution in Figures 10-13.

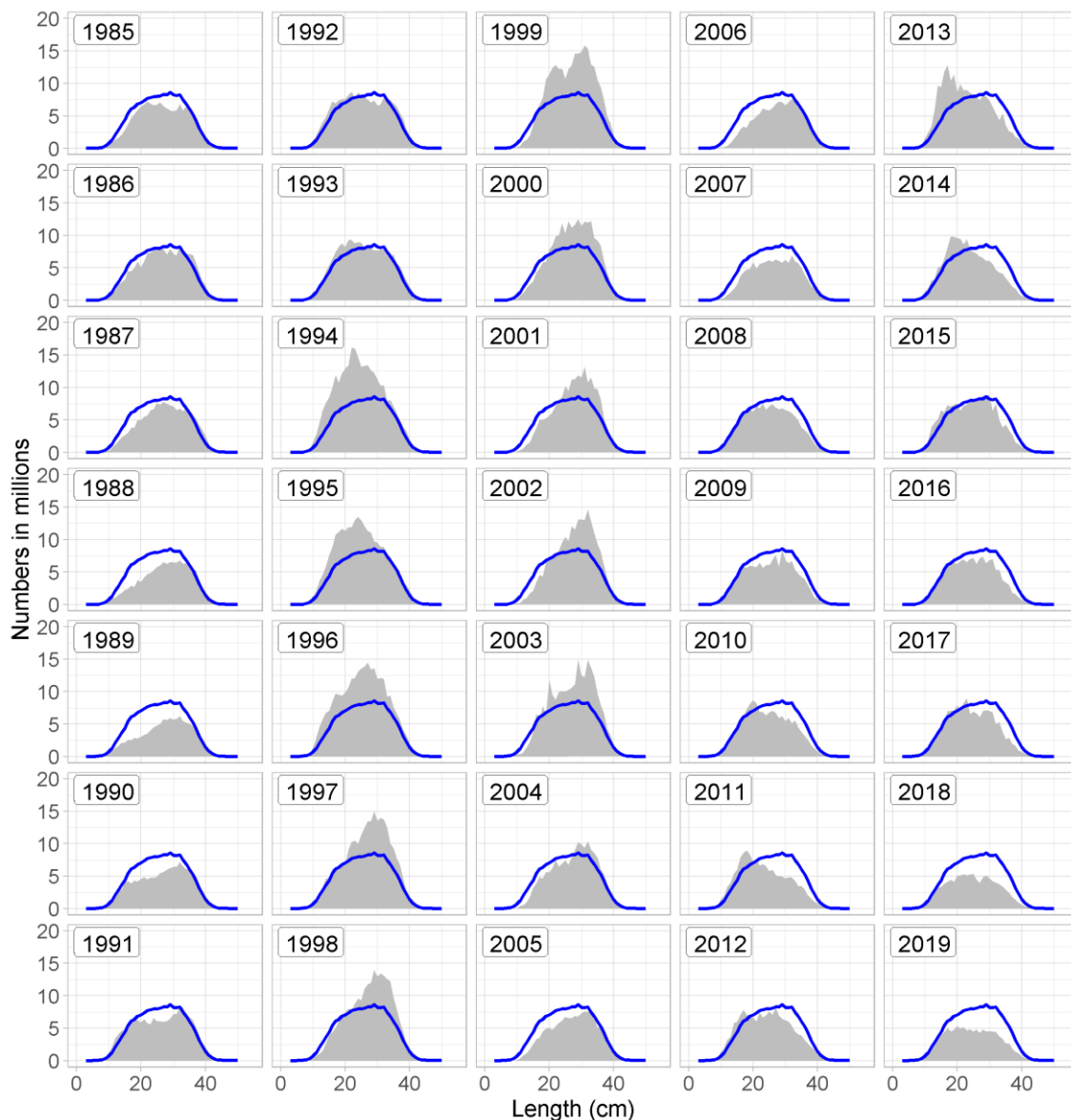


**Figure 7. Long rough dab. Total biomass indices (upper left), harvestable biomass indices (>25 cm) (upper, right) and biomass index of larger ind. (>37 cm) (lower left), juvenile abundance indices (<20 cm) (lower right), from the spring survey (blue) from 1985 and autumn survey (red) from 1996, along with the standard deviation**

*Mynd 7 Skrápflúra. Stofnvísitala (efri til vinstri), vísitala veiðistofns (25 cm og stærri, efri til hægri), vísitala stærri einstaklinga (37 cm og stærri, neðri til vinstri) og nýliðunarvísitala (neðri til hægri) úr stofnmælingu botnfiska að vori (blátt) frá árinu 1985 og hausti (rautt) frá árinu 1996, ásamt staðalfrávik.*

Total biomass index and the biomass index for long rough dab larger than 25 cm (harvestable part of the stock) decreased in 2003-2011 according to the spring survey. After somewhat improved indices in the next five years they fell to a new low in the 2018 and 2019 surveys. Biomass index of larger fish has been decreasing since 2001 and is at an all-time low, while the recruitment index has been decreasing since 2014 (Figure 7).

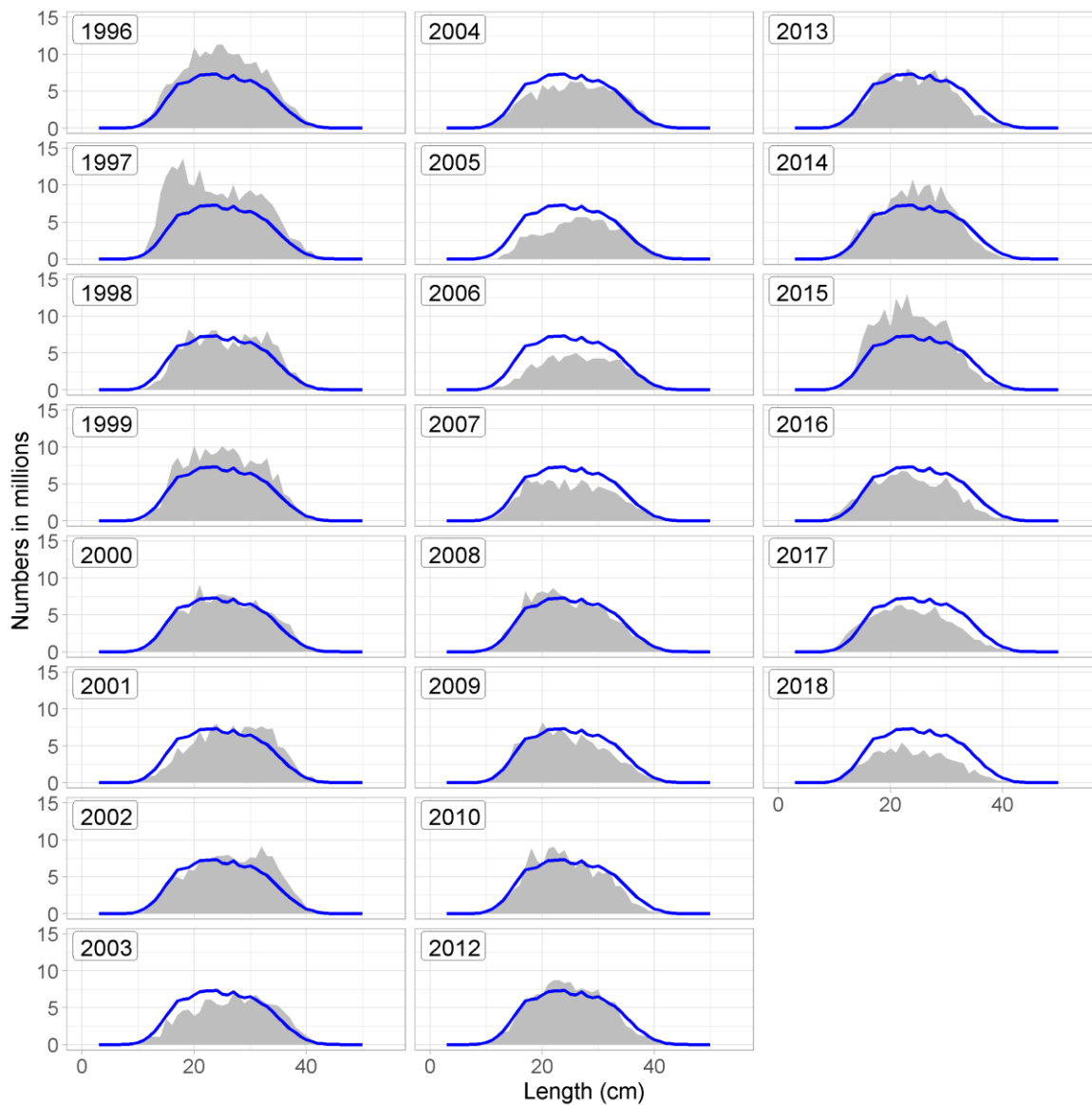
Length distribution of long rough dab in the spring survey is characterised by two periods of increased number of small fish (<25 cm). The first period was from 1993-1997 and the second from 2010-2015 (Figure 8). In the years that followed the first period there was an increase in long rough dab larger than 25 cm which was not seen after the second period. Although there is more variance in the length distributions from the autumn survey, these two periods of recruitment are also seen there (Figure 9).



**Figure 8. Long rough dab. Length disaggregated abundance indices from the spring survey. The blue line shows the mean for all years.**

**Mynd 8. Skrápflúra. Lengdarskiptar vísitölur úr stofnmælingu botnfiska að vori frá 1985 ásamt meðaltali allra ára (blá lína).**

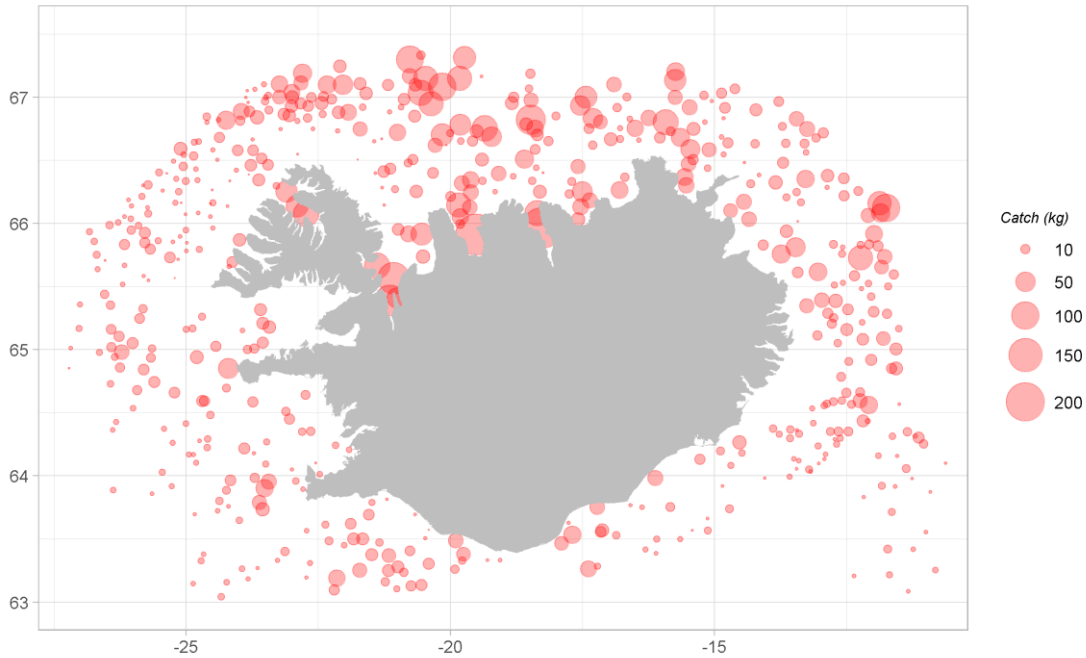




**Figure 9. Long rough dab. Length disaggregated abundance indices from the autumn survey. The blue line shows the mean for all years.**

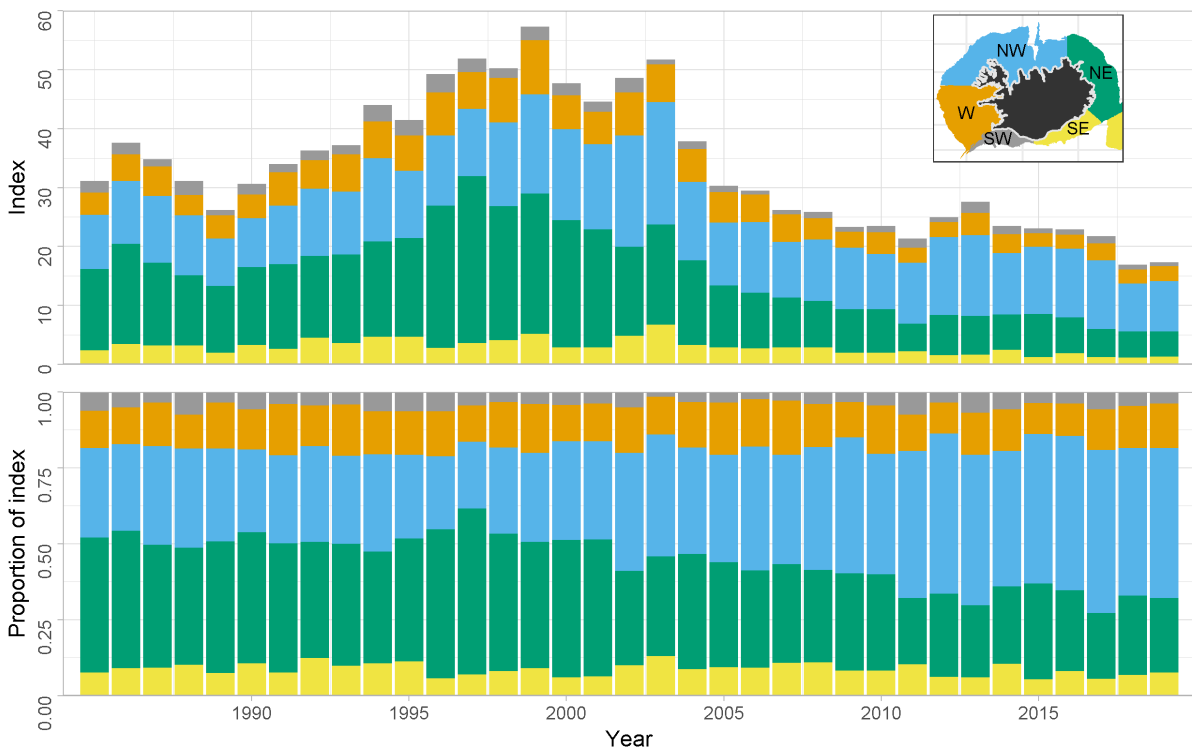
*Mynd 9. Skrápflúra. Lengdarskiptar vísitölur úr stofnmælingu botnfiska að hausti frá 1996 ásamt meðaltali allra ára (blá lína).*

Distribution of long rough dab in the spring survey shows that the species is found all around Iceland (Figures 10-11). Most of the biomass is measured in the northern areas. This also applies to the autumn survey (Figures 12-13). This is worth noticing, as most of the commercial catch during the main fishing years of 1994-2004 was taken in the SE area (Figure 2).



**Figure 10. Long rough dab. Spatial distribution in the spring survey in 2019.**

*Mynd 10. Skrápflúra. Útbreiðsla í stofnmælingu botnfiska að vori 2019.*



**Figure 11. Long rough dab. Spatial distribution of biomass index from the spring survey.**

*Mynd 11. Skrápflúra. Dreifing lífmassavísitölu í stofnmælingu botnfiska að vori.*

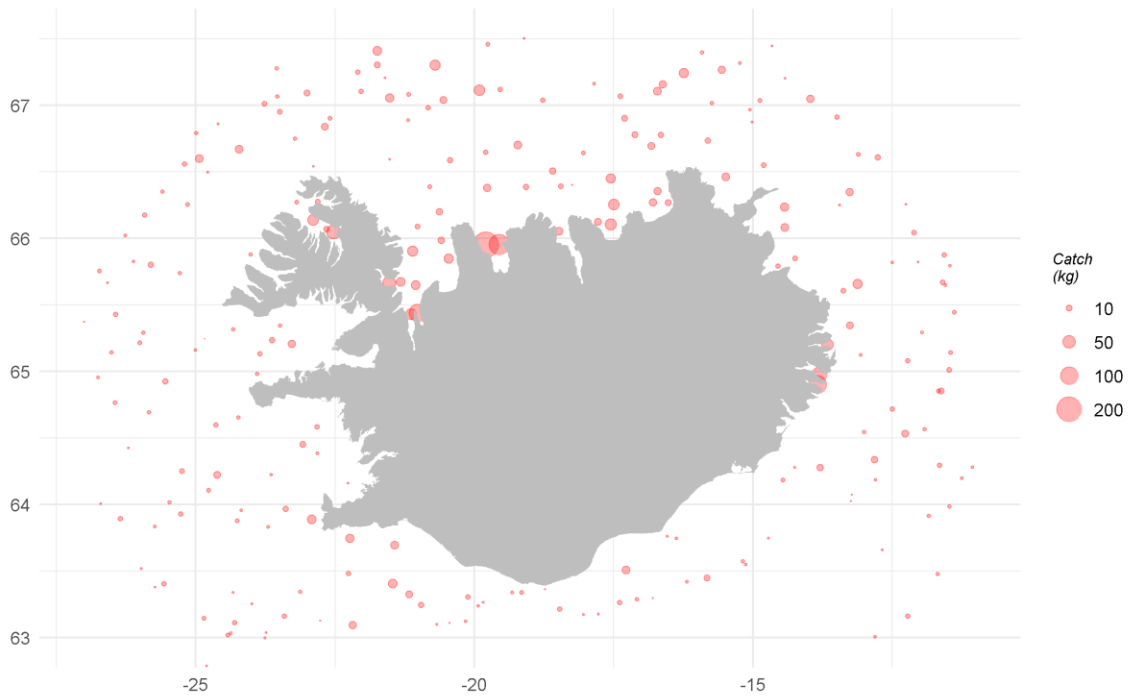


Figure 12. Long rough dab. Spatial distribution of long rough dab in the autumn survey in 2018.

*Mynd 12. Skrápflúra. Útbreiðsla í stofnmælingu botnfiska að hausti árið 2018.*

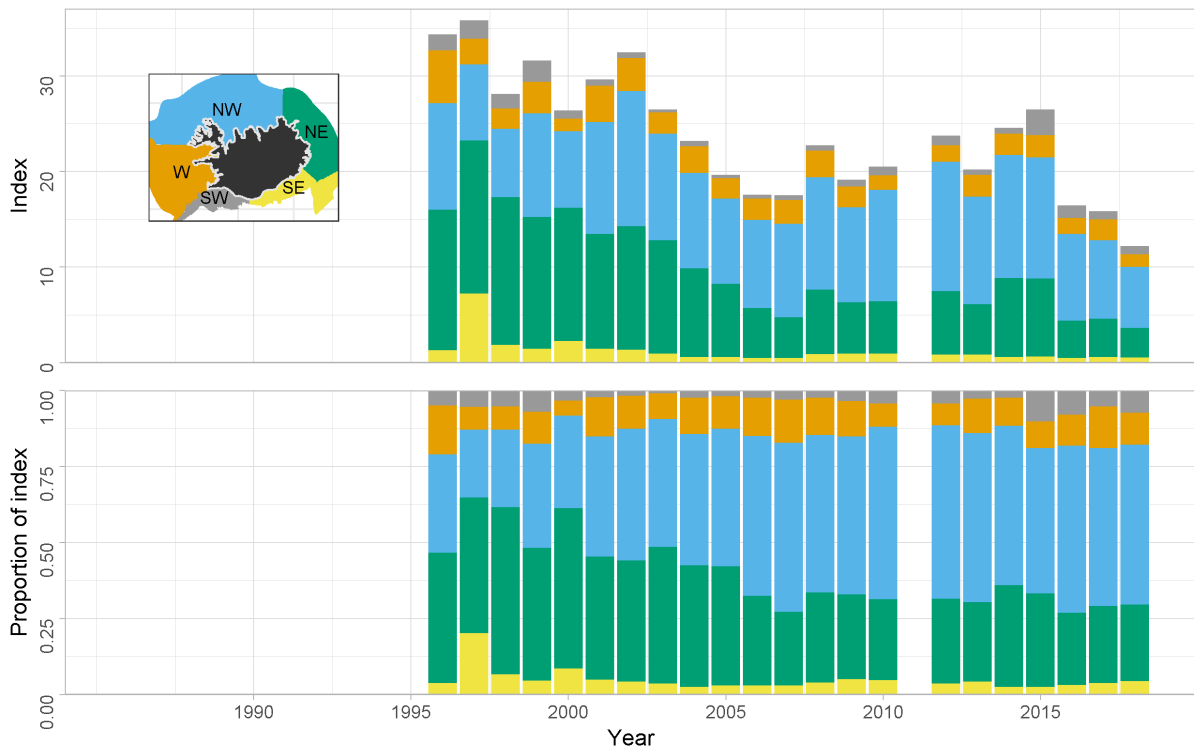


Figure 13. Long rough dab. Spatial distribution of biomass index from the autumn survey.

*Mynd 13. Skrápflúra. Dreifing lífmassavísitölu í stofnmælingu botnfiska að hausti.*

## MANAGEMENT

The Ministry of Industries and Innovation is responsible for management of the Icelandic fisheries and implementation of legislation. Long rough dab was included in the ITQ system in the 1997/1998 quota year, and as such subjected to TAC limitations, but only in a designated area, the main fishing grounds (Table 3). After considerable decrease in CPUE, direct fishing for long rough dab was no longer commercially feasible and the only landings were bycatch in other fisheries. In view of the changed situation, the Marine Research Institute (MRI) recommended that the long rough dab caught in the designated quota area should no longer be subjected to TAC limitations after the 2013/2014 quota year.

**Table 3. Long rough dab. Recommended TAC, national TAC set by the Ministry, and landings (tonnes) within the quota area and total landings.**

*Tafla 3. Skrápflúra. Tillögur Hafrannsóknastofnunar um hámarksafla, ákvörðun stjórnvalda um aflamark og landaður afli (tonn) innan kvótasvæðisins og heildarlöndun.*

<b>FISHING YEAR</b>	<b>REC. TAC</b>	<b>NATIONAL TAC</b>	<b>LANDINGS FROM QUOTA AREA</b>	<b>TOTAL LANDINGS</b>
<b>1995/96</b>	5000			6164
<b>1996/97</b>	5000			5470
<b>1997/98</b>	5000	5000	3413	3793
<b>1998/99</b>	5000	5000	3259	3522
<b>1999/00</b>	5000	5000	2783	3148
<b>2000/01</b>	5000	5000	2817	3658
<b>2001/02</b>	5000	5000	2512	3631
<b>2002/03</b>	5000	5000	2064	3064
<b>2003/04</b>	5000	5000	1636	2021
<b>2004/05</b>	5000	5000	772	1026
<b>2005/06</b>	2000	3500	638	764
<b>2006/07</b>	500	1500	259	359
<b>2007/08</b>	500	1000	210	303
<b>2008/09</b>	250	1000	210	290
<b>2009/10</b>	200	1000	129	213
<b>2010/11</b>	200	200	107	193
<b>2011/12</b>	200	200	77	148
<b>2012/13</b>	200	200	11	71
<b>2013/14</b>	200	200	9	89
<b>2014/15</b>	-	-	-	50
<b>2015/16</b>	-	-	-	14
<b>2016/17</b>	-	-	-	17
<b>2017/18</b>	-	-	-	22
<b>2018/19</b>	-	-	-	
<b>2019/20</b>	-			