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PORTUGUESE RESEARCH REPORT FOR 2016

by

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Av. Dr. ALFREDO MAGALHÃES RAMALHO, 6, 1495-006, LISBOA, PORTUGAL**A. Status of the fisheries**

In 2016, the Portuguese provisional nominal catches proceeding from NAFO Regulatory Sub Area 3 reached 19 750 t (Table 1-A). Nominal catches increased continuously from 2000 to 2003, when they peaked at 22 700 ton, but declined sharply afterwards (Table I-B); during 2004- 2008 catches stabilized between 11 700 and 13 500 t. Since 2009 catches increased from around 15 400 ton (2009-2010) to around 19 000 t (2016)

The 2016 fishing effort (Table II) and the catches are provisional (data extracted from NAFO Database STATLANT 21A on 25 May 2017 and STATLANT 21B on 14 June 2017). In 2016, 9 trawlers composed the Portuguese fleet that operated in the NAFO area.

Due to the reopening, in 2010, of the fishery for cod in Div 3M (Flemish Cap), this species represents now 56% of the total catch in this division and 30% of the Portuguese catches in all Sub Area 3.

Catches of redfish tripled its value from 2013 (571 ton) to 2015-2016 (around 1600 ton) in Div. 3L and in Div. 3N catches oscillated between 250 and 400 ton in the same period. In Div. 3M, from 2015 to 2016, the redfish catches increased around 1 400 ton, representing now 36% of the total catches in this division and 19% of the Portuguese catches in all Sub Area 3. In Div. 3O, catches of redfish remained relatively stable in recent years and represents about 80% of the total catches in this division and around 20% of the Portuguese catches in all Sub Area 3. Redfish remains by far the most important species in the Portuguese commercial catches from Sub Area 3, representing in recent years around 50% of the overall catch.

After remaining more or less stable in previous years, the Greenland halibut catches in the divisions 3L and 3M decreased 17% in 2015 and in 2016 remains at the 2015 levels. In Div. 3O, the Greenland halibut catches fell than by half from 2015 to 2016.

Roughhead grenadier catches in recent years are mainly by-catch of the Greenland halibut fishery and have been decreasing year by year. The witch flounder catches, that in 2015 decreased to residual values (55 ton in all Subarea 3), reached in 2016 221 ton (due the increase of 80 ton in both Div. 3M and 3O). Skates catches in Subarea 3 remains stable at the level of 370 ton, the bulk of the catches come from Div. 3N and Div. 3O. The 3O division catches of silver hake almost doubled, returning to the values of 2014 (at the level of 400 ton). The shrimp fishery in Div. 3L, that in 2009 its catches reached 20% of the total catch in this division, declined significantly in 2010. Portugal stopped fishing shrimp in 2013. The catches of other species remained more or less stable in all divisions.

Greenland halibut together with redfish continues to be the bulk of the catch on Div. 3L (more than 85% of the overall catch since 2009). The catch in Div. 3M (mainly cod and redfish) continue in 2016, like in most 3 recent years, to represent around 50% of the total catch. This division is, at present, the most important ground for



the Portuguese NAFO fishery (50% of the annual catches), but cod replaced redfish as the most important fishery. From 2012 to 2015, the catches in Div. 3N fell by half and in 2016 decreased again 214 ton, being now redfish (56%) and skates (27%) catches the most representative in the total Div. 3N catches; the catches of Greenland halibut are now almost residual (6%). On division 30, redfish continues by far the most important fishery.

## **B. Portuguese Annual Sampling Program**

### **1. Catch and effort sampling.**

Effort and CPUE data for 2016 Portuguese trawl fishery on the NAFO Regulatory Area were obtained through the revision of skipper logbooks from two trawlers, kindly supplied by its owners. All the information (round weight of the catch by species, fishing effort, positions and depths) has been recorded on a tow-by-tow basis. The vessel conversion factors were used to convert its processed landings in catches.

The daily catch and effort data from the logbook were used to estimate the directed effort and CPUE for each of the target species/stock, as well as the main by-catch species and depth range of the different fisheries, on a monthly basis. From the data available, the majority of the fishing effort was directed towards cod, redfish and Greenland halibut (Table III). Data regarding directed effort and catch rates of the Greenland halibut fishery are presented in Table III to IV-B and Fig. 1.

The Greenland halibut CPUE series was updated with the 2016 observed CPUEs. The additive model (Ávila de Melo and Alpoim, 1995), was upgraded in 1998 (Alpoim *et al.*, 1998) and used, like in previous years, to standardize the observed CPUEs, but excluding the vessel factor because the sampling program in recent years was carried out on vessels that were not sampled before. If the vessel factor is applied, these new vessels will increase a lot the noised. Because they are the only vessels sampled in the recent years, we assumed that all vessels belong to the same category what is realistic. From January 1988 till April 1995 each monthly observed CPUE of this series was previously corrected for 130mm mesh size (Ávila de Melo and Alpoim, 1996). In this analysis, any observation corresponding to a month and a trawler with less than 10 hours of directed effort was rejected. The CPUEs are presented in Tables IV and Fig. 1, with the associated standard errors ( $\pm 2$  standard errors in the Figures) and coefficients of variation.

#### **1.1. Comments on catch and effort data (based on the vessels sampled)**

##### **1.1.1. Greenland halibut in Div. 3L, 3M, 3N and 3O**

In Div. 3L catch rates declined prior to the boom of the deep-water fishery (Table IV-A, Fig. 1). However, it is from 1990 to 1991, i.e. from the first to the second year of this new fishery in the Regulatory Area, that CPUEs fell by half. Between 1991 and 1994 catch rates remained stable at a low level. Since then, catch rates gradually increased, reaching an upper level in 1999-2000. Catch rates declined in 2001 and remained stable at that lower level in 2002 and 2003. In 2004 the catch rates decline again, reaching the lowest value since 1994. However, after 2004, the Greenland halibut catch rates recovered continuously and, despite the high variability from 2006 to 2016, the catch rates reached, in this period, the highest values observed of the time series (0.833 ton/h in 2016).

Div. 3M catch rates, despite more noisy, follows the same trend as the ones in Div. 3L.

For all Div. 3LMNO combined (Table IV-A, Fig. 1) the observed catch rates series follows the Div. 3L pattern, since this is the division of Sub Area 3 with the highest concentration of Greenland halibut fishing effort.

## **2. Biological Sampling**

In 2016, biological sampling was obtained from two stern trawlers fishing in Div. 3L, 3M, 3N and 3O during all the year. Apart from species under moratoria, a priority to be sampled whenever they appear in the hauls,

biological sampling was conducted for the two most abundant species in each haul, following the NAFO sampling recommendations.

Cod, redfish (*S. mentella*) and American plaice were sampled in Div. 3L, 3M, 3N and 3O (Tab. V). Witch flounder was sampled in Div. 3L, 3M and 3O. Greenland halibut was sampled in Div. 3L and 3M. Roughhead grenadier was sampled only in Div. 3L. Redfish (*S. marinus*) were sampled only in Div. 3M and white hake and haddock only in Div. 3O.

Since 1996, all commercial information is representative of the catch as a whole, although sampling continues to be carried out by sex, with the exception of cod, white hake, Atlantic halibut and haddock. Mean weight and mean weight in the catch are derived from the length-weight relationships calculated from the commercial sampling in 2016 and are presented in Table VI. However, for species/stock with a low sampling level in 2016, the length-weight relationships calculated in previous years were used.

## **2.1. Catch and by-catch composition of the 2016 trawl fishery (130mm codend mesh size).**

The regular mesh size in the codend used by the monitored trawlers fishing groundfish was the 130mm and, when the mesh size is not mentioned it, means that the sample refers to the 130mm mesh size. However, in 2016, no one set was made with 200mm/280mm mesh size in the codend by the monitored vessels.

### **2.1.1. Cod Div. 3L**

Information on length composition of the cod by-catch in Div. 3L is available for May and June (Table VII, Fig. 2), from 291 m to 467 m depth.

Lengths between 39 cm and 48 cm dominated the catch, with a modal class at 39 cm (mean length and weight of 45.3 cm and 1013 g).

### **2.1.2. Cod Div. 3M**

Information on length composition of the cod trawl catch in Div. 3M is available from January to November, except for April, August and October (Table VIII, Fig. 3), from 144 m to 650 m depth.

Lengths between 39 cm and 48 cm dominated the catch, with a modal class at 39 cm (mean length and weight of 52.3 cm and 1934 g).

### **2.1.3. Cod Div. 3N**

Information on length composition of the cod by-catch in Div. 3N is available for May and June (Table IX, Fig. 4), from 257 m to 492 m depth.

Despite the small sampling (3 samples, 335 fish measured), we can conclude that lengths between 30 cm and 45 cm dominated the catch, with a very modal class at 39 cm (mean length and weight of 39.6 cm and 621 g).

### **2.1.4. Cod Div. 3O**

Information on length composition of the cod by-catch in Div. 3O is available for May and June (Table X, Fig. 5), from 123 m to 486 m depth.

Lengths between 39 cm and 51 cm dominated the catch, with three modal classes at modal class at 39 cm, 42 cm and 48 cm (mean length and weight of 48.2 cm and 1038 g).

### **2.1.5. Redfish (*S. mentella*) Div. 3L**

Information on length composition of the redfish (*S. mentella*) trawl catches in Div. 3L is available from May to November (Table XI, Fig. 6), from 291 m to 488 m depth.

Lengths between 21 cm and 26 cm dominated the catch, with a modal class at 23 cm (mean length and weight of 24.3 cm and 167 g).

### **2.1.6. Redfish (*S. mentella*) Div. 3M**

Information on length composition of the redfish (*S. mentella*) trawl catches in Div. 3M is available from January to July, except for April (Table XII, Fig. 7), from 159 m to 650 m depth.

Lengths between 20 cm and 24 cm dominated the catch, with a modal class at 22 cm (mean length and weight of 23.7 cm and 197 g).

### **2.1.7. Redfish (*S. mentella*) Div. 3N**

Information on length composition of the redfish (*S. mentella*) trawl catches in Div. 3N is available for May and June and from September to November (Table XIII, Fig. 8), from 257 m to 492 m depth.

Lengths between 21 cm and 26 cm dominated the catch, with two very modal classes at 22 cm and 23 cm (mean length and weight of 23.5 cm and 146 g).

### **2.1.8. Redfish (*S. mentella*) Div. 3O**

Information on length composition of the redfish (*S. mentella*) trawl catches in Div. 3O is available from May to November, except for August (Table XIV, Fig. 9), from 137 m to 504 m depth.

Lengths between 19 cm and 23 cm dominated the catches, with a very modal classes at 20 cm and 22 cm (mean length and weight of 21.1 cm and 105 g).

### **2.1.9. Redfish (*S. marinus*) Div. 3M**

Information on length composition of the redfish (*S. marinus*) trawl catches in Div. 3M is available for January, June and July (Table XV, Fig. 10), from 172 m to 585 m depth.

Lengths at 25 cm and between 27 cm and 33 cm dominated the catches, with a modal class at 31 cm (mean length and weight of 29.7 cm and 360 g).

### **2.1.10. American plaice Div. 3L**

Information on length composition of the American plaice by-catch in Div. 3L is available for May and June (Table XVI, Fig. 11), from 292 m to 467 m depth.

Lengths between 22 and 32 cm dominated the catch, with two modal classes at 30 cm and 32 cm (mean length and weight of 28.2 cm and 224 g).

### **2.1.11. American plaice Div. 3M**

Information on length composition of the American plaice by-catch in Div. 3M is available from January to July, except for April, (Table XVII, Fig. 12), from 152 m to 636 m depth.

Lengths between 28 and 34 cm dominated the catch, with two very modal classes at 30 cm and 32 cm (mean length and weight of 32 cm and 311 g).

### **2.1.12. American plaice Div. 3N**

Information on length composition of the American plaice by-catch in Div. 3N is available for May and June (Table XVIII, Fig. 13), from 257 m to 492 m depth.

Despite the small sampling (3 samples, 307 fish measured), we can conclude that lengths between 26 and 32 cm dominated the catch, with a very modal class at 30 cm (mean length and weight of 31.3 cm and 293 g).

### **2.1.13. American plaice Div. 3O**

Information on length composition of the American plaice by-catch in Div. 3O is available from May to November, except for July and August (Table XIX, Fig. 14), from 128 m to 520 m depth.

Lengths between 26 and 34 cm dominated the catch, with two modal classes at 30 cm and 32 cm (mean length and weight of 30.8 cm and 281 g).

### **2.1.14. Greenland halibut Div. 3L**

Information on length composition of the Greenland halibut catches in Div. 3L is available from January to November, except for April and August (Table XX, Fig. 15), from 292 m to 1425 m depth.

Lengths between 40 cm and 50 cm dominated the catch, with a modal class at 40 cm (mean length and weight of 45.4 cm and 962 g).

### **2.1.15. Greenland halibut Div. 3M**

Information on length composition of the Greenland halibut catches in Div. 3M is available only for January (Table XXI, Fig. 16), from 692 m to 705 m depth.

Because the small sampling (1 sample, 202 fish measured), nothing can be concluded about the dominant length classes (mean length and weight of 44.1 cm and 843 g).

### **2.1.16. Roughhead grenadier Div. 3L**

Information on length composition of the roughhead grenadier catches in Div. 3L is available for January and February, June and July, and October and November (Table XXII, Fig. 17), from 836 m to 1243 m depth.

Anal fin lengths between 8 cm and 10 cm dominated the catch, with a two modal classes at 9 cm and 10 cm (mean length and weight of 10.3 cm and 124 g).

### **2.1.17. Witch flounder Div. 3L**

Information on length composition of the witch flounder by-catch in Div. 3L is available for May and June (Table XXIII, Fig. 18), from 300 m to 483 m depth.

Lengths between 28 cm and 34 cm dominated the catch, with a very clear modal class at 30 cm (mean length and weight of 31.6 cm and 379 g).

### **2.1.18. Witch flounder Div. 3M**

Information on length composition of the witch flounder by-catch in Div. 3M is available for February and from May to July (Table XXIV Fig. 19), from 159 m to 621 m depth.

Lengths between 28 cm and 34 cm dominated the catch, with a very clear modal class at 30 cm (mean length and weight of 32.2 cm and 399 g).

### **2.1.19. Witch flounder Div. 30**

Information on length composition of the witch flounder by-catch in Div. 30 is available for May and June (Table XXV, Fig. 20), from 123 m to 486 m depth.

Lengths between 26 cm and 34 cm dominated the catch, with a very clear modal class at 32 cm (mean length and weight of 31.7 cm and 177 g).

### **2.1.20. White hake Div. 30**

Information on length composition of the white hake catches in Div. 30 is available for May and June (Table XXVI, Fig. 21), from 123 m to 389 m depth.

Despite the large range of lengths, the data show that lengths between 42 cm and 46 cm and at 50 cm dominated the catch (mean length and weight of 45.6 cm and 806 g).

### **2.1.21. Haddock Div. 30**

Information on length composition of the haddock catches in Div. 30 is available only for May (Table XXVII, Fig. 22), from 134 m to 218 m depth.

Despite the large range of lengths, the data show that lengths between 45 cm and 51 cm dominated the catch (mean length and weight of 47.3 cm and 876 g).

## **3. Acknowledgements**

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## **4. References**

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TABLE I-A: PORTUGUESE NOMINAL TRAWL CATCHES (mt) IN NAFO AREA, 2016  
(data extracted from NAFO Database Statlant 21A on 25 May 2017).

SPECIES	DIVISION				TOTAL 2016
	3L	3M	3N	3O	
Cod	82	5958	22	144	6206
Redfish	1577	3853	412	4101	9943
American plaice	45	109	19	141	314
Yellowtail flounder			10	4	14
Witch flounder	2	131	6	82	221
Greenland halibut	1310	339	45	2	1696
Atlantic halibut	24	55	20	126	225
Roughhead grenadier	26	9	1		36
Roundnose grenadier					
Anarhichas spp.		2			2
Hadocck		108		49	157
Pollock					
White hake	1	12		103	116
Red hake					
Silver Hake				404	404
Capelin					
Skates	25	28	201	127	381
Monkfish			1	23	24
Squid					
Shrimp					
Unidentified					
<b>TOTAL</b>	<b>3092</b>	<b>10604</b>	<b>737</b>	<b>5306</b>	<b>19739</b>

TABLE I - B: PORTUGUESE NOMINAL TRAWL CATCHES (mt) IN NAFO DIV. 3LMNO (data extracted from NAFO Database Statlant 21A on 25 May 2017)

SPECIES / YEAR	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Cod	4889	5504	4814	2946	2832	1528	1003	434	255	177	105	281	602	488
Redfish	8800	9509	9504	8953	9983	10904	9361	7768	7758	9155	8832	6637	9219	6346
American plaice	291	275	407	468	198	160	298	355	443	376	371	517	748	634
Yellowtail flounder	35	31	94	267	71	27	71	145		134	188	68	287	123
Witch flounder	55	186	128	108	128	71	131	221	124	141	150	591	485	436
Greenland halibut	1722	1938	2124	2051	2493	2257	2075	1976	1873	2326	2256	1888	4369	4318
Atlantic halibut	200	133	96	70	46	56	469	23	32	43	20	59	89	47
Roughhead grenadier	90	293	88	488	251	83	266	50	34	77	262	381	302	508
Roundnose grenadier	13	42	10	39	48	27	198	29	37	54				
Anarhichas spp.	5	4	4	6	18	13	41	25	16	28	32	45	112	88
Hadocck	30	181	78	64	13	1	3	1	2		6	23	141	78
Pollock			1									4	114	
White hake	133	109	81	19	25	17	24	55	62	102	157	1266	4090	1678
Red hake	2		1	1	69	1		3	2	4	18	13	2	1968
	266	468	30	35								6		
Capelin														
Skates	360	452	496	427	435	304	1045	1252	1058	1003	576	1550	1942	1362
Monkfish	10	24	7	4	1	11	3	13	35	34	6	73	165	71
Squid					1	2	29	5	2	17		11		
Shrimp				5		15	332					50		16
Unidentified			110	279	68	11	77	2	1	216	6	15	13	322
TOTAL	16901	19149	18073	16230	16680	15488	15426	12357	11734	13887	12985	13478	22680	18483

TABLE I - B: cont.

SPECIES / YEAR	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988
Cod	361	192	325	550	1545	1316	1670	2640	3657	5986	13362	15142	24130	12963
Redfish	5561	5678	6082	2370	1126	2152	3297	8614	9831	6584	12165	17803	19032	19137
American plaice	636	400	718	361	389	289	170	346	323	453	1183	715	1821	1813
Yellowtail flounder	350	151	428	87					21		11	5		
Witch flounder	576	230	509	381	350	238	385	579	291	851	1980	2257	15	10
Greenland halibut	5027	4688	3997	3245	3347	3313	1942	5970	8811	10547	13961	11171	3616	4194
Atlantic halibut	45	28	51	29	15	9	18	45	50	79	229	96		152
Roughhead grenadier	613	397	1302	1088	765	787	1377	2224	1996	2004	4053	3211	290	911
Roundnose grenadier														
Anarhichas spp.	142	61	552	139	184	121	1358	3219	2303	1697	2842	1941		
Hadocck	22	12	11	5	42		2	10	10	165	82	17		
Pollock								13	41	29	424	11		
White hake														8
Red hake	273	43	76	19	54	124	230	270	365	467	1010	469	104	
Capelin												14		
Skates	883	672	2168	1105	908	796	2062	6239	7604	7019	23304	13557	652	1075
Monkfish										37	7		15	
Squid				1		4							47	
Shrimp	420	289	227	203	170		17							
Unidentified	40	1	115	38	115	23	15	12	245	325	725	779	158	6
TOTAL	14949	12842	16561	9621	9010	9172	12543	30181	35548	36243	75327	67194	49885	40269



TABLE II : PORTUGUESE TRAWL EFFORT IN FISHING DAYS  
 IN NAFO Div. 3LMNO (data extracted from NAFO.  
 (Database Statlant 21B on 14 June 2017)

YEAR	3L	3M	3N	3O	Total geral
2000	519	248	297	329	1393
2001	770	477	361	262	1870
2002	607	263	532	490	1892
2003	503	257	783	753	2296
2004	435	400	406	464	1705
2005	492	407	218	359	1476
2006	408	454	106	517	1485
2007	295	359	162	421	1237
2008	307	464	179	213	1163
2009	512	727	237	188	1664
2010	495	643	214	242	1594
2011	432	770	320	233	1755
2012	235	400	337	299	1271
2013	395	681	350	258	1684
2014	454	791	194	361	1800
2015	374	570	162	336	1442
2016(a)	345	698	132	347	1522

a) not extracted from Database Statlant 21B, provisional

TABLE III: Portuguese trawl fishery cpue's and bycatch by month and division for 2016.

DIVISION	TARGET SPECIES	MONTH	DEPTH RANGE (m)		CPUE (ton/hour)	MAIN BYCATCH		WITCH FLOUNDER		TOTAL BYCATCH (%)
			MIN.	MAX.		SPECIES	%	BYCATCH (%)		
3M	COD	JAN	275	543	0.447	RED	24.6	0.0	28.2	
3M	COD	FEB	270	470	3.716	RED	4.8	0.2	6.4	
3M	COD	MAR	379	463	13.692	RED	1.9	0.1	2.9	
3M	COD	MAY	148	481	2.509	RED	4.7	0.5	6.4	
3M	COD	JUN	142	428	0.978	RED	6.3	1.1	10.3	
3M	COD	JUL	144	437	1.624	RED	22.8	0.8	24.6	
3M	COD	SEP	152	256	0.736	PLA	3.2	0.9	6.5	
3M	COD	NOV	143	214	0.527	WIT	4.5	4.5	10.7	
3L	RED	MAY	291	488	1.815	COD	3.3	1.6	9.4	
3L	RED	JUN	280	400	1.901	COD	4.9	1.3	8.5	
3L	RED	JUL	264	487	1.443	HAL	1.1	0.0	1.3	
3L	RED	AUG	301	332	2.422	HAL	0.2	0.0	0.2	
3L	RED	SEP	261	356	0.391	HAL	2.5	0.0	3.1	
3L	RED	OCT	268	363	0.448	HAL	1.3	0.0	3.0	
3L	RED	NOV	309	554	0.495	COD	29.4	0.0	30.9	
3M	RED	JAN	504	705	1.046	COD	5.2	0.1	7.2	
3M	RED	FEB	280	636	0.756	COD	9.2	0.6	11.1	
3M	RED	MAY	446	503	2.270	COD	28.3	2.2	30.4	
3M	RED	JUN	268	508	0.465	COD	31.8	1.5	37.6	
3M	RED	JUL	249	491	1.271	COD	13.2	0.4	14.0	
3N	RED	MAY	259	400	20.047	PLA	20.2	0.0	27.5	
3N	RED	JUN	257	492	3.844	COD	7.6	0.4	13.6	
3N	RED	SEP	271	360	1.868	-	0.0	0.0	0.0	
3N	RED	OCT	260	410	0.359	PLA	5.0	0.0	12.7	
3N	RED	NOV	260	450	0.633	COD	4.5	0.0	5.8	
3O	RED	MAY	123	486	2.725	WIT	5.3	5.3	20.4	
3O	RED	JUN	204	652	0.597	COD	9.7	2.5	34.3	
3O	RED	JUL	209	488	1.216	HAL	2.8	0.0	2.8	
3O	RED	SEP	145	600	0.714	HKW	3.9	0.0	10.6	
3O	RED	OCT	68	550	1.377	HAL	3.2	0.0	5.8	
3O	RED	NOV	138	571	1.244	COD	6.9	0.0	12.9	
3L	GHL	JAN	830	960	0.490	RHG	1.8	0.0	2.3	
3L	GHL	FEB	830	1414	0.992	RHG	4.7	0.0	6.2	
3L	GHL	MAR	1100	1339	1.617	RHG	5.2	0.0	6.7	
3L	GHL	JUN	836	1402	1.374	RHG	4.0	0.0	5.4	
3L	GHL	JUL	731	986	1.178	RHG	3.2	0.0	3.4	
3L	GHL	SEP	860	925	0.203	RHG	39.7	0.0	39.7	
3L	GHL	OCT	730	976	0.245	RHG	18.8	0.0	18.8	
3L	GHL	NOV	853	975	0.408	RHG	10.4	0.0	10.4	
3M	GHL	JAN	692	755	0.779	RED	25.1	0.0	27.1	
3N	GHL	SEP	918	973	0.035	HAL	16.2	0.0	16.2	
3N	GHL	OCT	861	865	0.025	-	0.0	0.0	0.0	
3O	GHL	JUN	383	400	0.027	HKW	36.6	0.0	59.8	
3L	RHG	JAN	830	972	0.008	HKR	29.2	0.0	29.2	
3L	RHG	SEP	860	910	0.152	GHL	55.0	0.0	55.0	
3L	RHG	OCT	929	938	0.118	GHL	46.8	0.0	46.8	
3O	WIT	MAY	165	171	0.043	RED	30.2	15.0	85.0	
3O	HAL	JUN	228	243	0.042	HKW	42.6	0.0	60.3	
3O	HKW	JUN	228	621	0.031	HAL	26.7	0.0	50.2	
3O	HKS	MAY	165	171	0.043	RED	30.2	15.0	85.1	

TABLE IV - A: GREENLAND HALIBUT TRAWL CATCH RATES, 1988-2016: mean annual cpue's corrected for the month, division and vessel of each observation.

	3L			3M			3N			3LMN			
	CPUE	ST.ERROR	C.V.	CPUE	ST.ERROR	C.V.	CPUE	ST.ERROR	C.V.	CPUE	ST.ERROR	C.V.	
1988	0.442	0.096	43.3							0.396	0.091	46.2	1988
1989	0.421	0.072	51.3							0.370	0.073	59.5	1989
1990	0.371	0.039	36.5	0.132			0.173			0.308	0.037	44.5	1990
1991	0.223	0.043	43.6				0.127	0.031	42.2	0.184	0.035	53.8	1991
1992	0.154	0.027	56.0				0.258	0.032	42.8	0.249	0.034	66.4	1992
1993	0.151	0.002	1.6				0.172	0.021	41.8	0.239	0.025	39.9	1993
1994	0.122	0.003	3.5				0.111	0.017	36.9	0.174	0.032	51.8	1994
1995	0.125	0.016	36.7	0.160	0.017	24.2	0.123	0.024	50.9	0.152	0.020	57.6	1995
1996	0.172	0.021	44.3	0.197	0.024	36.0	0.172	0.019	29.6	0.171	0.014	43.9	1996
1997	0.195	0.014	24.5	0.237	0.027	32.7	0.130	0.009	9.2	0.185	0.017	42.4	1997
1998	0.270	0.014	19.3	0.239	0.022	32.6	0.210	0.019	30.4	0.259	0.012	29.7	1998
1999	0.298	0.021	22.1	0.334	0.041	36.4	0.261	0.020	23.0	0.306	0.019	33.8	1999
2000	0.259	0.023	23.9	0.287	0.023	17.6	0.303	0.043	28.2	0.277	0.027	38.8	2000
2001	0.214	0.027	33.7	0.205	0.011	14.7	0.193	0.017	20.1	0.211	0.017	35.4	2001
2002	0.226	0.016	23.3	0.220	0.029	43.1	0.269	0.032	23.6	0.222	0.019	44.1	2002
2003	0.212	0.031	46.1	0.216	0.031	40.6	0.205	0.021	24.6	0.217	0.022	48.8	2003
2004	0.123	0.014	33.8	0.101	0.022	65.8	0.142	0.010	19.5	0.143	0.016	61.7	2004
2005	0.227	0.001	0.9	0.317	0.086	38.4				0.231	0.029	24.9	2005
2006	0.458	0.047	25.2	0.244	0.038	27.0				0.347	0.040	34.6	2006
2007	0.648	0.084	31.9	0.391	0.079	40.3				0.512	0.066	40.6	2007
2008	0.431	0.028	15.8	0.426	0.017	8.0				0.395	0.019	15.3	2008
2009	0.719	0.099	41.3	0.640	0.049	21.6				0.652	0.052	33.6	2009
2010	0.421	0.036	26.9	0.373	0.012	5.5	0.474			0.397	0.029	27.7	2010
2011	0.788	0.081	25.3	0.637	0.076	27.1				0.690	0.060	28.9	2011
2012	0.379	0.047	17.8	0.331						0.338	0.035	18.5	2012
2013	0.462	0.046	25.1	0.279	0.017	12.9	0.387	0.040	14.9	0.387	0.031	29.0	2013
2014	0.451	0.068	41.2	0.283	0.036	23.2	0.416	0.205	88.8	0.405	0.062	57.6	2014
2015	0.595	0.062	34.5	0.654	0.118	42.5				0.579	0.058	40.4	2015
2016	0.833	0.182	73.1	0.805						0.791	0.164	73.1	2016

TABLE IV - B: GREENLAND HALIBUT TRAWL CATCH RATES, 1988-2016 mean cpue's by division corrected for the year, month and vessel of each observation.

	CPUE	ST.ERROR	C.V.	
3L	0.359	0.011	46.0	3L
3M	0.306	0.009	32.4	3M
3N	0.209	0.008	38.4	3N
3LMNO	0.307	0.006	45.1	3LMNO

TABLE V: Intensity of the trawl sampling during 2016, by species, division and month.

SPECIES	DIV.	MONTH	N° OF SAMPLES	N° FISH MEASURED	SAMPLING WEIGHT(Kg)	OTOLITHS	
						N°	LENGTH RANGE (cm)
COD	3L	MAY	5	385	413	-	-
COD	3L	JUN	6	638	791	-	-
COD	3M	JAN	17	1370	1323	-	-
COD	3M	FEB	21	1843	1880	-	-
COD	3M	MAR	3	548	549	-	-
COD	3M	MAY	9	1091	1332	-	-
COD	3M	JUN	14	1705	2789	-	-
COD	3M	JUL	7	862	1884	-	-
COD	3M	SEP	4	400	878	-	-
COD	3M	NOV	4	400	773	-	-
COD	3N	MAY	1	110	72	-	-
COD	3N	JUN	2	225	202	-	-
COD	3O	MAY	6	570	694	-	-
COD	3O	JUN	8	873	1058	-	-
REDFISH (S. mentella)	3L	MAY	6	1207	416	50	22-33
REDFISH (S. mentella)	3L	JUN	6	1251	408	-	-
REDFISH (S. mentella)	3L	JUL	1	200	44	50	19-33
REDFISH (S. mentella)	3L	AUG	1	200	43	-	-
REDFISH (S. mentella)	3L	SEP	1	200	52	50	23-34
REDFISH (S. mentella)	3L	OCT	1	200	48	50	23-32
REDFISH (S. mentella)	3L	NOV	1	200	48	-	-
REDFISH (S. mentella)	3M	JAN	20	3812	866	-	-
REDFISH (S. mentella)	3M	FEB	21	3042	894	-	-
REDFISH (S. mentella)	3M	MAR	3	405	181	-	-
REDFISH (S. mentella)	3M	MAY	9	1243	369	-	-
REDFISH (S. mentella)	3M	JUN	12	2108	681	-	-
REDFISH (S. mentella)	3M	JUL	5	1151	365	50	19-42
REDFISH (S. mentella)	3N	MAY	1	199	62	-	-
REDFISH (S. mentella)	3N	JUN	2	337	103	-	-
REDFISH (S. mentella)	3N	SEP	1	200	33	-	-
REDFISH (S. mentella)	3N	OCT	1	200	28	50	21-31
REDFISH (S. mentella)	3N	NOV	1	200	33	50	22-30
REDFISH (S. mentella)	3O	MAY	5	712	169	-	-
REDFISH (S. mentella)	3O	JUN	7	1135	227	50	19-30
REDFISH (S. mentella)	3O	JUL	1	200	24	-	-
REDFISH (S. mentella)	3O	SEP	1	200	25	50	19-26
REDFISH (S. mentella)	3O	OCT	1	200	24	-	-
REDFISH (S. mentella)	3O	NOV	1	200	24	50	19-28
REDFISH (S. marinus)	3M	JAN	4	800	335	-	-
REDFISH (S. marinus)	3M	JUN	5	861	303	-	-
REDFISH (S. marinus)	3M	JUL	4	800	289	-	-
AMERICAN PLAICE	3L	MAY	5	623	167	-	-
AMERICAN PLAICE	3L	JUN	6	704	256	-	-
AMERICAN PLAICE	3M	JAN	9	629	161	-	-
AMERICAN PLAICE	3M	FEB	15	1011	338	-	-
AMERICAN PLAICE	3M	MAR	3	243	104	-	-
AMERICAN PLAICE	3M	MAY	8	680	222	-	-
AMERICAN PLAICE	3M	JUN	12	1232	639	-	-
AMERICAN PLAICE	3M	JUL	2	232	96	-	-
AMERICAN PLAICE	3N	MAY	1	92	33	-	-
AMERICAN PLAICE	3N	JUN	2	215	75	-	-
AMERICAN PLAICE	3O	MAY	6	626	213	-	-
AMERICAN PLAICE	3O	JUN	7	675	224	-	-
AMERICAN PLAICE	3O	SEP	1	200	197	-	-
AMERICAN PLAICE	3O	OCT	1	200	181	-	-
AMERICAN PLAICE	3O	NOV	1	200	153	-	-

TABLE V: Intensity of the trawl sampling during 2016, by species, division and month.

SPECIES	DIV.	MONTH	N° OF SAMPLES	N° FISH MEASURED	SAMPLING WEIGHT(Kg)	OTOLITHS	
						N°	LENGTH RANGE (cm)
GREENLAND HALIBUT	3L	JAN	2	400	416	-	-
GREENLAND HALIBUT	3L	FEB	7	1395	1405	-	-
GREENLAND HALIBUT	3L	MAR	2	487	448	-	-
GREENLAND HALIBUT	3L	MAY	2	138	34	-	-
GREENLAND HALIBUT	3L	JUN	9	1830	1869	-	-
GREENLAND HALIBUT	3L	JUL	2	400	385	-	-
GREENLAND HALIBUT	3L	SEP	2	400	448	-	-
GREENLAND HALIBUT	3L	OCT	2	401	426	-	-
GREENLAND HALIBUT	3L	NOV	2	400	375	-	-
GREENLAND HALIBUT	3M	JAN	1	202	185	-	-
ROUGHHEAD GRENADIER	3L	JAN	1	200	24	-	-
ROUGHHEAD GRENADIER	3L	FEB	2	247	134	-	-
ROUGHHEAD GRENADIER	3L	JUN	2	330	74	-	-
ROUGHHEAD GRENADIER	3L	JUL	1	200	16	-	-
ROUGHHEAD GRENADIER	3L	OCT	1	200	14	-	-
ROUGHHEAD GRENADIER	3L	NOV	1	200	14	-	-
WITCH FLOUNDER	3L	MAY	5	458	158	-	-
WITCH FLOUNDER	3L	JUN	5	478	202	-	-
WITCH FLOUNDER	3M	FEB	6	403	88	-	-
WITCH FLOUNDER	3M	MAY	7	639	139	-	-
WITCH FLOUNDER	3M	JUN	7	686	205	-	-
WITCH FLOUNDER	3M	JUL	3	369	128	-	-
WITCH FLOUNDER	3O	MAY	6	793	256	-	-
WITCH FLOUNDER	3O	JUN	7	611	209	-	-
WHITE HAKE	3O	MAY	5	326	328	-	-
WHITE HAKE	3O	JUN	6	482	486	-	-
HADDOCK	3O	MAY	4	247	259	-	-

TABLE VI: Length-weight relationship by species, stock and sex in 2016.

Species	Stock	Sex	a	b	n	r <sup>2</sup>	Length interval (cm)
COD	2J3KL	T	0.0092	3.0183	50	0.993	20-47
COD	3M	T	0.0038	3.2695	249	0.995	28-79
GHL	2J3KLMNO	F	0.0075	3.0659	90	0.993	17-62
GHL	2J3KLMNO	M	0.0059	3.1208	60	0.992	17-58
GHL	2J3KLMNO	T	0.0066	3.0987	150	0.993	17-62
REB	3LN	F	0.0273	2.7168	150	0.966	19-34
REB	3LN	M	0.0112	2.9880	150	0.985	21-33
REB	3LN	T	0.0291	2.7003	300	0.969	19-34
REB	3M	F	0.0502	2.6026	55	0.963	19-37
REB	3M	M	0.0458	2.6145	63	0.950	17-42
REB	3M	T	0.0470	2.6110	118	0.959	17-42
REB	3O	F	0.2663	1.9552	75	0.987	19-30
REB	3O	M	0.2108	2.0260	75	0.982	19-29
REB	3O	T	0.2377	1.9884	150	0.990	19-30

TABLE VII: COD, DIV. 3L, 2016: length composition (0/000) of the 130mm trawl catches

LENGTH GROUP	MAY	JUN	2nd Q. =YEAR	LENGTH GROUP
18	3.2		1.5	18
21	7.9		3.6	21
24	15.3		7.0	24
27	22.3	0.8	10.6	27
30	83.6	5.1	41.0	30
33	46.0	13.4	28.3	33
36	108.6	31.9	67.0	36
39	251.1	165.2	204.5	39
42	143.0	174.0	159.8	42
45	104.6	157.7	133.4	45
48	120.9	134.7	128.4	48
51	29.6	112.9	74.9	51
54	36.6	104.7	73.6	54
57	17.2	42.9	31.2	57
60	5.3	24.8	15.9	60
63	4.7	14.2	9.8	63
66		4.0	2.2	66
69		5.6	3.1	69
72		1.6	0.9	72
75		3.2	1.7	75
78				78
81		1.6	0.9	81
84		1.6	0.9	84
TOTAL	1000	1000	1000	
No. SAMPLES	5	6	11	
SAMPLING WEIGHT(kg)	413	791	1204	
No. F.MEASURED	385	638	1023	
MEAN LENGTH(cm)	42.0	48.1	45.3	
MEAN WEIGHT (g)	805	1188	1013	
DEPTH RANGE (m)	291/467	300/400	291/467	

TABLE VIII: COD, DIV. 3M, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	JAN	FEB	MAR	MAY	JUN	JUL	SEP	NOV	1st Q.	2nd Q.	3rd Q.	4th Q.	YEAR	LENGTH GROUP
27		1.7								0.9			0.4	27
30		5.2	3.3	2.7	4.5					4.1	3.6		3.6	30
33	5.1	18.1	11.2	15.0	11.7	3.9			14.5	13.3	3.2		13.2	33
36	14.5	48.6	32.5	36.1	33.2	4.8			40.0	34.6	4.0		35.1	36
39	78.4	191.3	130.3	208.4	145.2	91.1			159.6	175.7	75.2		163.1	39
42	110.8	116.5	151.3	123.9	115.8	78.9			131.2	119.7	65.1		121.0	42
45	155.1	161.7	129.3	157.9	109.2	130.2			147.4	132.7	107.4		136.8	45
48	176.9	126.9	86.5	152.5	71.4	76.3	2.0	6.4	112.0	110.6	63.3	6.4	108.2	48
51	165.4	100.4	115.4	138.7	30.5	77.8	4.5	6.4	110.0	82.7	64.9	6.4	92.7	51
54	191.7	106.0	144.5	59.0	31.4	137.0	26.1	6.4	126.7	44.7	117.6	6.4	82.0	54
57	34.0	32.1	31.5	33.9	21.8	24.2	28.8	35.9	31.9	27.7	25.0	35.9	29.3	57
60	15.6	22.1	34.5	25.3	18.6	26.1	51.2	34.6	27.1	21.8	30.5	34.6	24.5	60
63	19.7	19.4	33.6	11.0	16.4	13.0	97.8	95.9	25.5	13.8	27.9	95.9	19.8	63
66	6.7	11.6	17.0	8.3	21.4	44.6	153.4	126.8	13.7	15.1	63.7	126.8	17.5	66
69	10.3	8.6	13.4	9.5	25.7	41.6	246.8	312.6	10.8	17.9	77.6	312.6	19.5	69
72	9.4	7.3	19.0	11.0	75.0	67.4	111.6	202.8	12.4	44.1	75.2	202.8	33.4	72
75	5.2	14.6	25.6	4.0	116.5	84.5	157.5	102.9	18.9	62.1	97.3	102.9	46.3	75
78	1.2	5.8	7.7	2.6	95.5	58.2	63.6	21.1	6.4	50.6	59.2	21.1	32.7	78
81		2.0	5.7	0.2	24.0	19.7	25.4	20.0	3.5	12.5	20.7	20.0	9.3	81
84			5.4		18.6	15.6	18.7	22.8	2.3	9.6	16.1	22.8	7.0	84
87			2.2	0.2	7.2	4.4	5.8	5.3	0.9	3.8	4.6	5.3	2.7	87
90					6.3	0.6	6.6			3.2	1.7		1.8	90
93						0.1					0.1		0.005	93
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	17	21	3	9	14	7	4	4	41	23	11	4	79	
SAMPLING WEIGHT(kg)	1323	1880	549	1332	2789	1884	878	773	3753	4121	2762	773	11408	
No. F.MEASURED	1370	1843	548	1091	1705	862	400	400	3761	2796	1262	400	8219	
MEAN LENGTH(cm)	50.6	48.6	51.3	48.1	58.2	58.2	70.8	70.6	49.8	53.3	60.4	70.6	52.3	
MEAN WEIGHT (g)	1504	1393	1708	1311	2880	2690	4349	4267	1534	2122	2981	4267	1934	
DEPTH RANGE (m)	275/650	279/630	379/460	217/425	145/331	144/437	152/256	149/214	275/650	145/425	144/437	149/214	144/650	





TABLE IX: COD, DIV. 3N, 2016: length composition (0/000)  
of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	2nd Q. =YEAR	LENGTH GROUP
27	27.3	11.7	22.4	27
30	136.4	37.6	105.6	30
33	272.7	28.6	196.7	33
36	45.5	172.7	85.1	36
39	345.5	257.9	318.2	39
42	36.4	162.4	75.6	42
45	63.6	198.2	105.5	45
48	63.6	77.2	67.9	48
51	9.1	34.8	17.1	51
54		9.3	2.9	54
57		7.2	2.2	57
60				60
63		2.4	0.7	63
TOTAL	1000	1000	1000	
No. SAMPLES	1	2	3	
SAMPLING WEIGHT(kg)	72	202	274	
No. F.MEASURED	110	225	335	
MEAN LENGTH(cm)	38.3	42.4	39.6	
MEAN WEIGHT (g)	571	731	621	
DEPTH RANGE (m)	259/400	257/492	257/492	

TABLE X: COD, DIV. 3O, 2016: length composition (0/000)  
of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	2nd Q. =YEAR	LENGTH GROUP
27		1.6	0.8	27
30		8.8	4.4	30
33	0.9	37.1	18.9	33
36	18.4	78.6	48.4	36
39	144.0	194.0	168.9	39
42	147.3	182.9	165.0	42
45	122.0	168.5	145.2	45
48	217.4	122.4	170.1	48
51	149.1	59.1	104.3	51
54	90.5	59.0	74.8	54
57	28.6	19.2	23.9	57
60	10.7	5.4	8.1	60
63	20.9	11.0	16.0	63
66	11.0	1.5	6.3	66
69	4.6	3.2	3.9	69
72	14.3	11.0	12.7	72
75	10.4	19.1	14.8	75
78	9.8	13.1	11.4	78
81		0.9	0.5	81
84		2.7	1.4	84
87		0.9	0.5	87
TOTAL	1000	1000	1000	
No. SAMPLES	6	8	14	
SAMPLING WEIGHT(kg)	694	1058	1752	
No. F.MEASURED	570	873	1443	
MEAN LENGTH(cm)	49.6	46.8	48.2	
MEAN WEIGHT (g)	1100	977	1038	
DEPTH RANGE (m)	123/486	128/389	123/486	

TABLE XI: REDFISH (*S. mentella*), DIV. 3L, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	JUL	AUG	SEP	OCT	NOV	2nd Q.	3rd Q.	4th Q.	YEAR	LENGTH GROUP
10		0.5						0.2			0.1	10
11		5.4						2.7			1.6	11
12	5.7	5.2						5.5			3.1	12
13	8.6	17.9						13.3			7.6	13
14	9.5	14.4						11.9			6.8	14
15	23.1	15.3						19.2			11.0	15
16	15.3	29.9						22.6			12.9	16
17	29.2	26.4						27.8			15.9	17
18	40.7	42.8						41.7			23.9	18
19	52.9	39.7	5.0			5.0	10.0	46.3	3.3	6.0	28.3	19
20	74.5	96.4	5.0	5.0		20.0	15.0	85.4	4.5	19.0	52.8	20
21	100.8	135.4	35.0	10.0		30.0	40.0	118.0	25.3	32.0	79.3	21
22	194.1	204.4	15.0	75.0	15.0	20.0	120.0	199.2	30.1	40.2	128.2	22
23	160.9	164.7	175.0	125.0	40.0	25.0	110.0	162.8	149.3	42.2	142.3	23
24	62.8	40.6	185.0	200.0	70.0	120.0	80.0	51.7	177.5	111.9	96.6	24
25	24.6	27.5	135.0	215.0	105.0	190.0	160.0	26.1	152.2	183.9	84.4	25
26	26.2	19.7	70.0	210.0	105.0	165.0	170.0	23.0	108.6	166.0	67.5	26
27	23.0	19.3	110.0	50.0	220.0	125.0	80.0	21.1	105.7	115.9	58.7	27
28	33.8	24.0	125.0	60.0	175.0	65.0	75.0	28.9	113.6	67.0	58.8	28
29	23.0	23.5	45.0	15.0	115.0	90.0	80.0	23.2	44.3	88.0	38.2	29
30	28.0	14.6	45.0	10.0	45.0	75.0	10.0	21.3	36.2	61.9	31.2	30
31	13.9	13.4	25.0	10.0	45.0	30.0	5.0	13.7	23.2	25.0	18.0	31
32	21.1	5.3	15.0	10.0	35.0	10.0	30.0	13.2	15.7	14.0	14.0	32
33	15.2	8.6	10.0	5.0	15.0		10.0	11.9	9.2	2.0	9.8	33
34	6.6	2.9			10.0	10.0	5.0	4.7	1.0	9.0	4.2	34
35	4.2	2.3			5.0	10.0		3.2	0.5	8.0	3.1	35
36	1.5					10.0		0.7		8.0	1.5	36
37	0.5							0.2			0.1	37
38	0.4							0.2			0.1	38
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	6	6	1	1	1	1	1	12	3	2	17	
SAMPLING WEIGHT(kg)	416	408	44	43	52	48	48	824	139	95	1058	
No. F.MEASURED	1207	1251	200	200	200	200	200	2458	600	400	3458	
MEAN LENGTH(cm)	23.2	22.3	26.1	25.5	27.8	26.9	25.8	22.7	26.1	26.7	24.3	
MEAN WEIGHT (g)	148	132	199	183	238	218	193	140	199	213	167	
DEPTH RANGE (m)	291/488	295/400	309/356	302/304	309/331	306/347	329/332	291/488	302/356	306/347	291/488	

TABLE XI: REDFISH (*S. mentella*), DIV. 3M, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	JAN	FEB	MAR	MAY	JUN	JUL	1st Q.	2nd Q.	3rd Q.	YEAR	LENGTH GROUP
8						0.3			0.3	0.1	8
9						0.3			0.3	0.1	9
10	1.4	1.7				0.5	1.5		0.5	1.2	10
11	3.8	6.3		3.4	1.3	0.8	4.4	2.5	0.8	3.6	11
12	4.7	8.9			0.5	0.8	5.7	0.2	0.8	4.5	12
13	9.2	16.2	3.2	7.9	2.5	2.0	11.0	5.6	2.0	9.0	13
14	8.6	17.3	3.1	7.9	2.7	2.6	10.8	5.6	2.6	8.9	14
15	9.9	17.2	7.8	16.7	7.7	3.2	11.7	12.8	3.2	10.0	15
16	16.1	19.3	1.6	16.6	6.2	3.4	16.8	12.1	3.4	14.0	16
17	20.2	32.3	13.7	31.3	10.9	4.6	23.2	22.4	4.6	19.5	17
18	26.7	29.1	21.7	39.1	16.1	4.5	27.3	29.2	4.5	22.8	18
19	38.0	45.3	10.8	44.9	22.0	11.1	39.7	35.0	11.1	33.8	19
20	90.4	96.3	52.5	100.3	46.6	13.3	91.8	77.1	13.3	75.6	20
21	132.6	121.1	33.8	103.4	76.9	23.0	129.3	92.0	23.0	106.7	21
22	188.5	214.7	53.5	216.2	133.8	57.3	194.5	180.6	57.3	166.7	22
23	161.6	164.8	63.1	134.6	120.8	100.5	162.0	128.7	100.5	148.5	23
24	68.8	43.2	48.5	40.9	108.4	125.1	62.3	70.0	125.1	75.1	24
25	55.3	27.9	21.6	27.8	77.8	99.1	48.3	49.4	99.1	58.4	25
26	39.7	19.8	12.2	29.9	80.1	149.3	34.6	51.6	149.3	58.1	26
27	26.1	13.2	42.2	27.4	55.6	85.9	22.9	39.6	85.9	36.1	27
28	21.0	20.7	100.5	21.4	46.9	48.9	21.2	32.4	48.9	27.2	28
29	21.3	19.6	59.3	32.6	28.1	41.9	21.0	30.7	41.9	25.5	29
30	24.9	23.2	156.9	43.2	52.2	48.5	25.0	47.1	48.5	30.5	30
31	17.1	16.9	86.9	27.5	36.5	29.6	17.3	31.4	29.6	20.3	31
32	6.8	10.1	59.0	10.8	21.1	45.0	7.8	15.3	45.0	15.5	32
33	5.8	5.9	24.3	7.2	13.6	43.3	5.9	9.9	43.3	13.5	33
34	0.7	2.6	22.8	6.8	7.8	30.2	1.3	7.2	30.2	7.3	34
35	1.1	2.0	19.9	1.3	3.8	7.5	1.4	2.4	7.5	2.6	35
36		1.7	16.6	0.7	7.5	10.3	0.5	3.7	10.3	2.6	36
37		0.04	12.0		2.4	2.7	0.1	1.0	2.7	0.6	37
38		1.9	6.3	0.2	3.4	1.7	0.5	1.6	1.7	0.8	38
39			15.4		2.5	0.01	0.1	1.1	0.01	0.1	39
40		0.7	18.3		2.6	0.01	0.3	1.1	0.01	0.2	40
41		0.03	10.7		0.5	1.4	0.05	0.2	1.4	0.3	41
42			1.5		0.1	1.4	0.01	0.03	1.4	0.3	42
43					1.2			0.5		0.02	43
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	20	21	3	9	12	5	44	21	5	70	
SAMPLING WEIGHT(kg)	866	894	181	369	681	365	1940	1049	365	3354	
No. F.MEASURED	3812	3042	405	1243	2108	1151	7259	3351	1151	11761	
MEAN LENGTH(cm)	23.0	22.4	28.3	23.2	25.2	26.8	22.9	24.0	26.8	23.7	
MEAN WEIGHT (g)	180	172	317	187	231	268	178	206	268	197	
DEPTH RANGE (m)	511/650	279/636	426/460	203/489	159/330	270/491	279/650	159/489	270/491	159/650	

TABLE XIII: REDFISH (*S. mentella*), DIV. 3N, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	SEP	OCT	NOV	2nd Q.	3rd Q.	4th Q.	YEAR	LENGTH GROUP
11	5.0	2.7				4.0			1.3	11
12	10.1	5.3				8.1			2.6	12
13	15.1	5.3				11.0			3.6	13
14	40.2	8.0				26.8			8.8	14
15	15.1	5.3				11.0			3.6	15
16	40.2	17.3				30.7			10.1	16
17	50.3	31.3				42.4			13.9	17
18	75.4	31.3	10.0	10.0	10.0	57.1	10.0	10.0	25.4	18
19	55.3	41.2	15.0	5.0	20.0	49.4	15.0	17.4	27.6	19
20	105.5	71.2	85.0	25.0	25.0	91.3	85.0	25.0	52.8	20
21	115.6	136.6	120.0	25.0	55.0	124.3	120.0	49.7	81.2	21
22	185.9	232.0	180.0	85.0	180.0	205.0	180.0	163.3	178.7	22
23	110.6	191.0	230.0	160.0	195.0	143.9	230.0	188.9	178.3	23
24	35.2	51.6	190.0	180.0	155.0	42.0	190.0	159.4	124.0	24
25	45.2	42.1	75.0	170.0	165.0	43.9	75.0	165.9	116.8	25
26	15.1	51.6	60.0	180.0	100.0	30.2	60.0	114.0	81.1	26
27	30.2	10.1	10.0	90.0	45.0	21.8	10.0	52.9	38.4	27
28	5.0	34.8	10.0	35.0	30.0	17.4	10.0	30.9	24.4	28
29	15.1	8.7	10.0	20.0	15.0	12.4	10.0	15.9	14.2	29
30	25.1	6.7	5.0	10.0	5.0	17.5	5.0	5.9	9.6	30
31	5.0	9.4		5.0		6.8		0.9	2.7	31
32		6.7				2.8			0.9	32
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	1	2	1	1	1	3	1	2	6	
SAMPLING WEIGHT(kg)	62	103	33	28	33	166	33	61	260	
No. F.MEASURED	199	337	200	200	200	536	200	400	1136	
MEAN LENGTH(cm)	21.4	22.6	23.4	25.0	24.2	21.9	23.4	24.4	23.5	
MEAN WEIGHT (g)	116	133	142	173	157	123	142	160	146	
DEPTH RANGE (m)	259/400	257/492	271/360	260/298	267/432	257/492	271/360	260/432	257/492	

TABLE XIV: REDFISH (*S. mentella*), DIV. 3O, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	JUL	SEP	OCT	NOV	2nd Q.	3rd Q.	4th Q.	YEAR	LENGTH GROUP
7	1.6						1.0			0.2	7
8	12.4	4.6					9.5			1.5	8
9	15.2	14.0					14.7			2.4	9
10	21.8	16.5					19.8			3.2	10
11	24.4	13.7					20.4			3.3	11
12	42.8	29.3					37.8			6.1	12
13	49.0	34.3					43.5			7.1	13
14	85.2	57.5					74.9			12.2	14
15	102.0	65.9					88.6			14.4	15
16	114.9	114.8			20.0		114.9		9.3	23.4	16
17	117.6	102.8	15.0	20.0	40.0	15.0	112.1	18.4	26.6	37.8	17
18	84.3	84.2	30.0	50.0	70.0	65.0	84.3	43.7	67.3	62.2	18
19	76.5	86.7	140.0	70.0	120.0	95.0	80.3	92.0	106.6	97.4	19
20	110.4	89.0	245.0	130.0	195.0	195.0	102.4	166.1	195.0	170.2	20
21	53.7	86.0	255.0	175.0	125.0	195.0	65.7	200.1	162.4	159.3	21
22	34.3	101.9	200.0	200.0	180.0	195.0	59.5	200.0	188.0	171.1	22
23	21.7	37.8	65.0	145.0	145.0	120.0	27.7	119.9	131.6	110.8	23
24	10.7	24.5	30.0	130.0	30.0	60.0	15.8	98.6	46.0	58.8	24
25	8.5	8.4	10.0	60.0	35.0	30.0	8.4	44.3	32.3	32.5	25
26	6.3	11.4	10.0	20.0	10.0	20.0	8.2	16.9	15.3	14.7	26
27	5.6	9.2			5.0	5.0	7.0		5.0	3.6	27
28	1.1	4.9			10.0	5.0	2.5		7.3	4.1	28
29		1.4			10.0		0.5		4.7	2.4	29
30		1.3			5.0		0.5		2.3	1.3	30
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	5	7	1	1	1	1	12	2	2	16	
SAMPLING WEIGHT(kg)	169	227	24	25	24	24	396	49	48	493	
No. F.MEASURED	712	1135	200	200	200	200	1847	400	400	2647	
MEAN LENGTH(cm)	17.3	18.6	21.3	22.2	21.6	21.8	17.8	21.9	21.7	21.1	
MEAN WEIGHT (g)	72	83	105	115	108	110	76	112	109	105	
DEPTH RANGE (m)	137/307	216/371	420/467	219/494	476/480	473/504	137/371	219/494	473/504	137/504	

TABLE XV: REDFISH (*S. marinus*), DIV. 3M, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	JAN	JUN	JUL	1st Q.	2nd Q.	3rd Q.	YEAR	LENGTH GROUP
18		13.4			13.4		4.5	18
19		13.4			13.4		4.5	19
20	5.5	26.8	1.7	5.5	26.8	1.7	10.7	20
21	8.3	0.0	1.8	8.3	0.0	1.8	2.1	21
22	14.2	27.9	1.8	14.2	27.9	1.8	12.3	22
23	31.0	68.5	14.8	31.0	68.5	14.8	35.2	23
24	46.2	73.3	37.2	46.2	73.3	37.2	50.6	24
25	53.6	107.8	40.5	53.6	107.8	40.5	65.0	25
26	65.4	51.9	60.3	65.4	51.9	60.3	58.2	26
27	129.0	103.2	67.4	129.0	103.2	67.4	88.1	27
28	161.0	58.5	92.3	161.0	58.5	92.3	90.6	28
29	185.3	31.7	93.1	185.3	31.7	93.1	85.4	29
30	142.1	30.4	127.8	142.1	30.4	127.8	97.1	30
31	89.8	121.5	114.7	89.8	121.5	114.7	113.5	31
32	24.5	128.0	122.9	24.5	128.0	122.9	110.8	32
33	20.9	31.6	94.0	20.9	31.6	94.0	62.8	33
34	11.9	15.9	43.1	11.9	15.9	43.1	29.5	34
35	9.0	56.8	35.1	9.0	56.8	35.1	38.7	35
36	2.1	16.8	8.7	2.1	16.8	8.7	10.5	36
37		2.3	18.1		2.3	18.1	10.2	37
38		2.6	12.6		2.6	12.6	7.5	38
39		14.8	5.5		14.8	5.5	7.8	39
40		1.5	1.0		1.5	1.0	1.0	40
41		1.4	5.6		1.4	5.6	3.4	41
TOTAL	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	4	5	4	4	5	4	13	
SAMPLING WEIGHT(kg)	335	303	289	335	303	289	927	
No. F.MEASURED	800	861	800	800	861	800	2461	
MEAN LENGTH(cm)	28.6	28.7	30.6	28.6	28.7	30.6	29.7	
MEAN WEIGHT (g)	313	332	390	313	332	390	360	
DEPTH RANGE (m)	540/585	172/257	249/319	540/585	172/257	249/319	172/585	

TABLE XVI: AMERICAN PLAICE, DIV. 3L, 2016: length composition (0/000)  
of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	2nd Q. =YEAR	LENGTH GROUP
14	0.6	0.8	0.7	14
16	10.1	7.6	9.2	16
18	24.3	12.7	20.2	18
20	102.4	39.9	80.2	20
22	162.5	62.0	126.9	22
24	155.6	76.8	127.7	24
26	107.5	166.4	128.3	26
28	114.7	132.8	121.1	28
30	115.4	181.9	139.0	30
32	121.3	183.2	143.2	32
34	33.0	86.0	51.8	34
36	15.1	26.2	19.1	36
38	19.1	18.9	19.0	38
40	12.9	2.5	9.2	40
42	5.5	0.8	3.8	42
44		1.5	0.5	44
TOTAL	1000	1000	1000	
No. SAMPLES	5	6	11	
SAMPLING WEIGHT(kg)	167	256	423	
No. F.MEASURED	623	704	1327	
MEAN LENGTH(cm)	27.5	29.5	28.2	
MEAN WEIGHT (g)	209	251	224	
DEPTH RANGE (m)	292/467	295/400	292/467	



TABLE XVII: AMERICAN PLAICE, DIV. 3M, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	JAN	FEB	MAR	MAY	JUN	JUL	1st Q.	2nd Q.	3rd Q.	YEAR	LENGTH GROUP
18	11.2	3.3			1.8		6.3	1.3		3.3	18
20	15.2	16.1	8.4	15.7	5.3	9.5	15.2	7.9	9.5	10.9	20
22	40.6	39.4	9.8	36.0	14.9	27.6	37.6	20.0	27.6	27.6	22
24	76.4	77.4	27.4	47.0	27.5	56.6	73.2	32.2	56.6	50.0	24
26	83.4	88.6	47.0	73.6	42.4	31.5	83.3	50.0	31.5	63.0	26
28	112.7	123.6	115.8	133.0	111.7	133.9	118.5	116.9	133.9	118.2	28
30	283.4	271.1	195.6	300.5	158.0	63.5	270.5	192.7	63.5	219.6	30
32	200.0	178.4	118.8	242.1	243.1	221.1	182.8	242.9	221.1	217.3	32
34	99.2	96.3	161.9	81.7	207.4	218.9	102.5	176.9	218.9	147.9	34
36	46.1	39.3	63.7	24.3	103.9	112.3	44.0	84.6	112.3	68.9	36
38	21.3	32.7	105.5	30.0	37.2	63.9	33.5	35.4	63.9	35.7	38
40	9.4	26.0	109.8	10.5	31.4	31.5	25.5	26.3	31.5	26.2	40
42	1.1	5.4	18.5	4.2	10.2	21.2	4.6	8.7	21.2	7.5	42
44		2.4	15.0	1.4	4.7	8.6	2.4	3.9	8.6	3.5	44
46					0.4			0.3		0.2	46
48			2.9				0.2			0.1	48
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	9	15	3	8	12	2	27	20	2	49	
SAMPLING WEIGHT(kg)	161	338	104	222	639	96	603	861	96	1560	
No. F.MEASURED	629	1011	243	680	1232	232	1883	1912	232	4027	
MEAN LENGTH(cm)	30.7	31.0	33.9	31.1	33.0	33.1	31.1	32.5	33.1	32.0	
MEAN WEIGHT (g)	273	284	384	281	341	352	287	327	352	311	
DEPTH RANGE (m)	523/636	278/636	426/460	203/426	152/331	270/284	278/636	152/426	270/284	152/636	

TABLE XVIII: AMERICAN PLAICE, DIV. 3N, 2016: length composition (0/000)  
of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	2nd Q. =YEAR	LENGTH GROUP
16		3.7	0.5	16
18		11.4	1.6	18
20		26.1	3.7	20
22		54.0	7.7	22
24	54.3	99.6	60.8	24
26	97.8	95.5	97.5	26
28	141.3	216.9	152.0	28
30	337.0	153.9	311.0	30
32	206.5	174.3	202.0	32
34	65.2	104.3	70.8	34
36	32.6	22.5	31.2	36
38	21.7	20.8	21.6	38
40	32.6		28.0	40
42	10.9	17.1	11.8	42
TOTAL	1000	1000	1000	
No. SAMPLES	1	2	3	
SAMPLING WEIGHT(kg)	33	75	108	
No. F.MEASURED	92	215	307	
MEAN LENGTH(cm)	31.5	30.0	31.3	
MEAN WEIGHT (g)	297	264	293	
DEPTH RANGE (m)	259/400	257/492	257/492	

TABLE XIX: AMERICAN PLAICE, DIV. 3O, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	SEP	OCT	NOV	2nd Q.	3rd Q.	4th Q.	YEAR	LENGTH GROUP
16		1.6				0.8			0.6	16
18		11.2				5.2			4.1	18
20	10.4	54.9				31.0			24.5	20
22	20.0	71.4			20.0	43.7		12.7	36.2	22
24	51.4	84.6	35.0	15.0	35.0	66.7	35.0	27.7	59.1	24
26	97.1	99.7	135.0	50.0	125.0	98.3	135.0	97.6	101.2	26
28	143.5	139.7	185.0	195.0	285.0	141.8	185.0	252.1	159.7	28
30	210.0	216.3	310.0	200.0	225.0	212.9	310.0	215.9	221.1	30
32	262.5	174.9	170.0	255.0	180.0	222.1	170.0	207.4	216.0	32
34	100.9	84.3	85.0	140.0	50.0	93.3	85.0	82.9	91.2	34
36	43.6	31.9	45.0	75.0	45.0	38.2	45.0	56.0	41.1	36
38	31.6	14.7	25.0	45.0	35.0	23.8	25.0	38.7	25.8	38
40	19.5	14.6	10.0	20.0		17.2	10.0	7.3	15.4	40
42	9.5			5.0		5.1		1.8	4.3	42
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	6	7	1	1	1	13	1	2	16	
SAMPLING WEIGHT(kg)	213	224	197	181	153	437	197	335	969	
No. F.MEASURED	626	675	200	200	200	1301	200	400	1901	
MEAN LENGTH(cm)	31.5	29.7	31.1	32.5	30.7	30.7	31.1	31.3	30.8	
MEAN WEIGHT (g)	300	257	282	321	271	280	282	289	281	
DEPTH RANGE (m)	134/486	128/371	145/157	341/465	404/520	128/486	145/157	341/520	128/520	

TABLE XX: GREENLAND HALIBUT, DIV. 3L, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	JAN	FEB	MAR	MAY	JUN	JUL	SEP	OCT	NOV	1st Q.	2nd Q.	3rd Q.	4th Q.	YEAR	LENGTH GROUP
14				4.3							0.1			0.02	14
16				29.3							0.4			0.1	16
18				58.8							0.8			0.2	18
20				122.2							1.6			0.5	20
22				97.2	0.6						1.8			0.6	22
24			2.4	84.4	3.9					0.5	5.0			1.8	24
26		4.8	8.2	177.0	6.0					4.7	8.3			4.8	26
28		10.1	3.3	75.9	20.2					7.3	21.0			10.0	28
30		18.5	21.4	159.1	27.6					16.3	29.4			16.8	30
32		34.1	22.2	75.3	46.1	6.4				26.8	46.5	6.1		27.9	32
34		48.9	33.6	54.3	42.8	38.3	3.4		2.2	38.8	42.9	36.7	1.0	36.5	34
36	5.3	55.2	43.8	25.0	63.9	52.9	6.8		7.2	45.7	63.3	50.8	3.3	48.3	36
38	7.7	61.9	60.8	25.0	88.7	52.3	17.1	9.6	10.6	53.7	87.9	50.8	10.1	60.4	38
40	56.3	198.8	205.9		110.3	84.2	47.8	26.9	41.6	179.1	108.9	82.5	33.7	130.4	40
42	40.3	127.9	148.9	12.5	96.4	87.3	40.5	37.9	60.4	118.9	95.3	85.2	48.3	100.5	42
44	57.3	61.1	76.2		130.8	130.7	57.1	123.6	97.1	63.4	129.1	127.4	111.3	97.5	44
46	110.9	34.7	48.8		94.1	245.5	184.3	133.4	185.4	48.6	92.8	242.8	157.5	99.2	46
48	198.0	50.1	66.6		69.0	79.6	152.2	58.8	135.4	75.0	68.1	82.9	94.3	75.6	48
50	211.7	134.2	132.8		83.2	70.4	149.8	144.3	142.7	145.3	82.1	74.0	143.6	115.1	50
52	88.9	48.4	33.9		25.8	50.3	155.0	239.2	126.6	51.6	25.4	55.0	187.0	55.6	52
54	126.3	21.1	21.3		27.6	43.5	98.0	156.0	107.5	36.6	27.2	46.0	133.5	43.4	54
56	47.3	24.8	18.3		21.2	39.0	39.0	50.6	57.8	26.9	20.9	39.0	53.9	29.0	56
58	19.7	35.4	31.0		26.0	14.0	24.5	12.6	17.2	32.2	25.7	14.5	14.8	26.1	58
60	18.0	13.4	16.4		10.3	5.4	21.3	7.0	8.4	14.6	10.1	6.1	7.6	11.4	60
62	12.3	14.2	4.1		3.3		3.2			12.0	3.2	0.1		6.5	62
64		2.7			1.3					1.8	1.3			1.2	64
66					0.8						0.8			0.3	66
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	2	7	2	2	9	2	2	2	2	11	11	4	4	30	
SAMPLING WEIGHT(kg)	416	1405	448	34	1869	385	448	426	375	2270	1904	833	800	5807	
No. F.MEASURED	400	1395	487	138	1830	400	400	401	400	2282	1968	800	801	5851	
MEAN LENGTH(cm)	50.2	44.7	44.6	27.3	43.8	46.1	49.8	50.5	49.5	45.5	43.5	46.3	50.0	45.4	
MEAN WEIGHT (g)	1250	929	912	212	869	979	1223	1265	1195	973	860	990	1233	962	
DEPTH RANGE (m)	830/896	1080/1371	1172/1339	292/483	875/1425	878/908	860/925	833/943	869/970	830/1371	292/1425	860/925	833/970	292/1425	

TABLE XXI: GREENLAND HALIBUT, DIV. 3M, 2016: length composition (0/000)  
of the 130mm trawl catches.

LENGTH GROUP	JAN =YEAR	LENGTH GROUP
30	5.0	30
32	9.9	32
34	24.8	34
36	29.7	36
38	128.7	38
40	138.6	40
42	94.1	42
44	207.9	44
46	257.4	46
48	19.8	48
50	34.7	50
52	9.9	52
54	14.9	54
56	24.8	56
TOTAL	1000	
No. SAMPLES	1	
SAMPLING WEIGHT(kg)	185	
No. F.MEASURED	202	
MEAN LENGTH(cm)	44.1	
MEAN WEIGHT (g)	843	
DEPTH RANGE (m)	692/705	

TABLE XXII: ROUGHHEAD GRENADIER, DIV. 3L, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	JAN	FEB	JUN	JUL	OCT	NOV	1st Q.	2nd Q.	3rd Q.	4th Q.	YEAR	LENGTH GROUP
6				5.0					5.0		0.7	6
7		3.5	52.8	45.0	90.0	105.0	2.3	52.8	45.0	94.1	69.1	7
8	20.0	7.9	132.2	265.0	290.0	240.0	12.1	132.2	265.0	276.4	217.9	8
9	230.0	50.2	120.2	260.0	305.0	215.0	112.6	120.2	260.0	280.6	231.7	9
10	340.0	71.4	240.9	305.0	235.0	220.0	164.6	240.9	305.0	230.9	233.0	10
11	170.0	134.2	119.5	85.0	45.0	140.0	146.6	119.5	85.0	70.7	90.1	11
12	60.0	336.3	104.9	30.0	30.0	50.0	240.4	104.9	30.0	35.4	72.9	12
13	75.0	88.2	66.4	5.0	5.0	30.0	83.6	66.4	5.0	11.8	28.6	13
14	65.0	74.2	108.6				71.0	108.6			25.4	14
15	30.0	33.6	19.2				32.4	19.2			7.2	15
16	10.0	24.7	6.4				19.6	6.4			3.6	16
17		33.6	9.6				21.9	9.6			4.4	17
18		16.8	3.2				11.0	3.2			2.0	18
19		13.3	6.4				8.7	6.4			2.1	19
20		3.5	3.2				2.3	3.2			0.8	20
21		8.9	3.2				5.8	3.2			1.3	21
22		7.9					5.2				0.7	22
23		28.2	3.2				18.4	3.2			3.0	23
24		12.4					8.1				1.1	24
25		8.9					5.8				0.8	25
26		26.4					17.2				2.4	26
27		7.9					5.2				0.7	27
28												28
29		3.5					2.3				0.3	29
30		4.4					2.9				0.4	30
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	1	2	2	1	1	1	3	2	1	2	8	
SAMPLING WEIGHT(kg)	24	134	74	16	14	14	158	74	16	28	276	
No. F.MEASURED	200	247	330	200	200	200	447	330	200	400	1377	
MEAN LENGTH(cm)	11.2	14.2	11.3	9.7	9.5	9.8	13.2	11.3	9.7	9.6	10.3	
MEAN WEIGHT (g)	142	332	156	93	86	97	266	156	93	89	124	
DEPTH RANGE (m)	865/912	1080/1243	836/1062	909/982	883/920	891/896	865/1243	836/1062	909/982	883/920	836/1243	

TABLE XXII: WITCH FLOUNDER, DIV. 3L, 2016: length composition (0/000)  
of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	2nd Q. =YEAR	LENGTH GROUP
18	6.0	3.6	5.1	18
20	14.3	5.8	11.3	20
22	18.9	25.5	21.3	22
24	61.2	29.0	49.6	24
26	92.1	65.6	82.6	26
28	146.6	166.4	153.7	28
30	276.5	159.0	234.2	30
32	163.8	190.3	173.4	32
34	142.3	171.7	152.9	34
36	24.9	77.6	43.9	36
38	23.2	57.7	35.6	38
40	22.1	23.2	22.5	40
42	6.5	14.4	9.3	42
44	1.5	1.6	1.5	44
46		4.3	1.6	46
48		4.3	1.6	48
TOTAL	1000	1000	1000	
No. SAMPLES	5	5	10	
SAMPLING WEIGHT(kg)	158	202	360	
No. F.MEASURED	458	478	936	
MEAN LENGTH(cm)	31.2	32.5	31.6	
MEAN WEIGHT (g)	365	406	379	
DEPTH RANGE (m)	322/483	300/358	300/483	

TABLE XXIV: WITCH FLOUNDER, DIV. 3M, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	FEB	MAY	JUN	JUL	1st Q.	2nd Q.	3rd Q.	YEAR	LENGTH GROUP
16		2.1				1.0		0.6	16
18		9.7	0.6			5.1		3.2	18
20	6.0	30.0	9.8	7.4	6.0	19.7	7.4	14.9	20
22	18.5	51.0	25.8	22.3	18.5	38.1	22.3	31.4	22
24	33.5	95.8	57.3	46.5	33.5	76.1	46.5	62.2	24
26	51.3	115.4	79.6	43.2	51.3	97.1	43.2	79.2	26
28	74.4	196.7	85.8	103.9	74.4	140.1	103.9	120.0	28
30	216.2	269.8	137.2	119.2	216.2	202.1	119.2	194.3	30
32	215.1	138.8	165.9	195.2	215.1	152.6	195.2	172.9	32
34	140.6	27.9	173.1	177.0	140.6	102.0	177.0	121.0	34
36	100.8	20.9	99.2	83.0	100.8	60.9	83.0	73.1	36
38	55.9	23.4	66.7	108.7	55.9	45.5	108.7	56.3	38
40	54.3	11.0	54.7	46.4	54.3	33.3	46.4	39.9	40
42	15.4	4.9	24.1	16.5	15.4	14.7	16.5	15.1	42
44	7.1	1.4	12.6	8.3	7.1	7.1	8.3	7.3	44
46	6.0	1.1		8.8	6.0	0.5	8.8	2.9	46
48	2.5		5.4	2.8	2.5	2.7	2.8	2.7	48
50	2.5		2.2	5.5	2.5	1.1	5.5	2.0	50
52				5.5			5.5	0.7	52
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	6	7	7	3	6	14	3	23	
SAMPLING WEIGHT(kg)	88	139	205	128	88	344	128	560	
No. F. MEASURED	403	639	686	369	403	1325	369	2097	
MEAN LENGTH(cm)	33.3	29.6	33.2	33.8	33.3	31.4	33.8	32.2	
MEAN WEIGHT (g)	430	324	429	448	430	378	448	399	
DEPTH RANGE (m)	278/621	216/424	159/330	281/476	278/621	159/424	281/476	159/621	

TABLE XXV: WITCH FLOUNDER, DIV. 30, 2016: length composition (0/000)  
of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	2nd Q. =YEAR	LENGTH GROUP
18	3.5	5.8	4.0	18
20	11.2	16.3	12.3	20
22	18.6	40.6	23.3	22
24	64.9	49.3	61.6	24
26	91.0	125.4	98.3	26
28	117.0	158.5	125.8	28
30	164.9	200.7	172.5	30
32	279.7	204.5	263.7	32
34	102.3	80.3	97.6	34
36	41.1	37.5	40.3	36
38	58.1	42.4	54.7	38
40	28.8	19.0	26.7	40
42	10.7	14.6	11.5	42
44	5.4	3.0	4.9	44
46	1.6	0.7	1.4	46
48	1.3	1.5	1.3	48
TOTAL	1000	1000	1000	
No. SAMPLES	6	7	13	
SAMPLING WEIGHT(kg)	256	209	465	
No. F.MEASURED	793	611	1404	
MEAN LENGTH(cm)	31.9	31.1	31.7	
MEAN WEIGHT (g)	181	164	177	
DEPTH RANGE (m)	123/486	128/389	123/486	



TABLE XXVI: WHITE HAKE, DIV. 3O, 2016: length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	MAY	JUN	2nd Q. =YEAR	LENGTH GROUP
30		2.7	2.0	30
31		13.6	10.3	31
32		6.7	5.1	32
33	3.1	8.7	7.3	33
34		2.3	1.8	34
35	5.0	23.6	19.1	35
36	7.5	13.1	11.8	36
37	11.3	20.7	18.4	37
38	29.0	34.3	33.0	38
39	57.6	43.3	46.8	39
40	18.2	51.0	43.0	40
41	32.5	20.6	23.5	41
42	35.7	106.5	89.3	42
43	36.2	121.4	100.6	43
44	43.7	99.2	85.6	44
45	101.0	90.3	92.9	45
46	80.4	66.9	70.2	46
47	67.8	25.2	35.6	47
48	97.2	24.3	42.1	48
49	30.6	15.6	19.3	49
50	103.9	60.3	70.9	50
51	37.6	1.3	10.1	51
52	79.0	28.2	40.6	52
53	37.3	21.9	25.7	53
54	11.1	24.6	21.3	54
55	24.6	38.4	35.0	55
56	13.2	17.7	16.6	56
57	5.7	7.8	7.3	57
58	16.1	4.4	7.2	58
59				59
60	8.8		2.1	60
61	3.0		0.7	61
62		1.4	1.1	62
63		3.9	2.9	63
64				64
65	2.5		0.6	65
TOTAL	1000	1000	1000	
No. SAMPLES	5	6	11	
SAMPLING WEIGHT(kg)	328	486	814	
No. F.MEASURED	326	482	808	
MEAN LENGTH(cm)	47.5	45.0	45.6	
MEAN WEIGHT (g)	901	775	806	
DEPTH RANGE (m)	123/307	204/389	123/389	

TABLE XXVII: HADDOCK, DIV. 30, 2016:  
length composition (0/000) of the 130mm trawl catches.

LENGTH GROUP	MAY =YEAR	LENGTH GROUP
30	3.6	30
31	0.0	31
32	0.0	32
33	6.7	33
34	7.3	34
35	5.6	35
36	0.0	36
37	24.9	37
38	12.0	38
39	10.3	39
40	48.3	40
41	11.4	41
42	14.3	42
43	23.8	43
44	32.7	44
45	107.7	45
46	70.4	46
47	119.3	47
48	78.2	48
49	78.2	49
50	136.6	50
51	64.3	51
52	52.3	52
53	22.7	53
54	4.7	54
55	26.4	55
56	8.3	56
57	2.0	57
58	15.6	58
59	0.0	59
60	8.8	60
61	0.0	61
62	3.6	62
TOTAL	1000	
No. SAMPLES	4	
SAMPLING WEIGHT(kg)	259	
No. F.MEASURED	247	
MEAN LENGTH(cm)	47.3	
MEAN WEIGHT (g)	876	
DEPTH RANGE (m)	134/218	

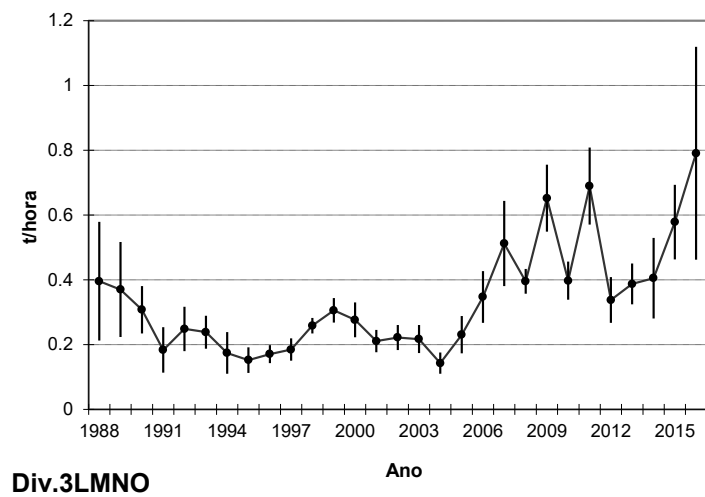
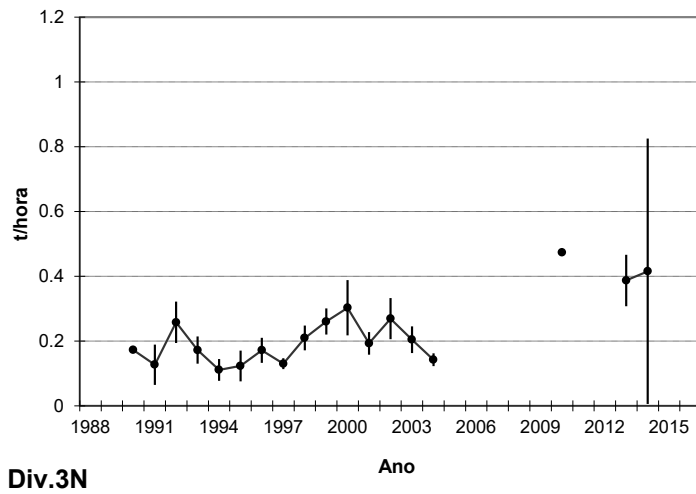
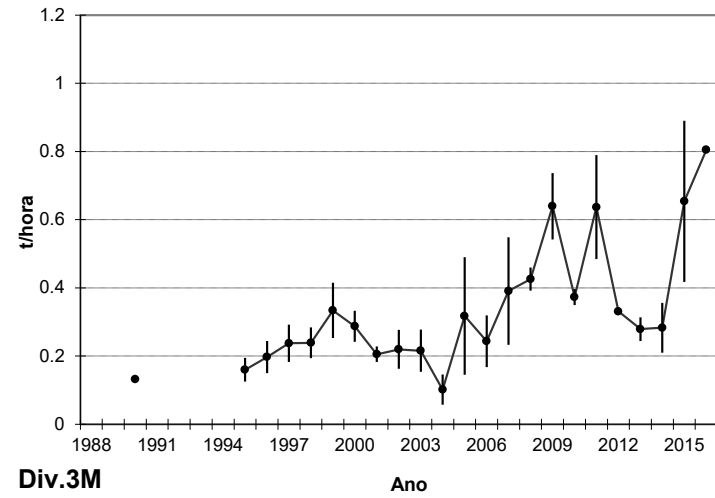
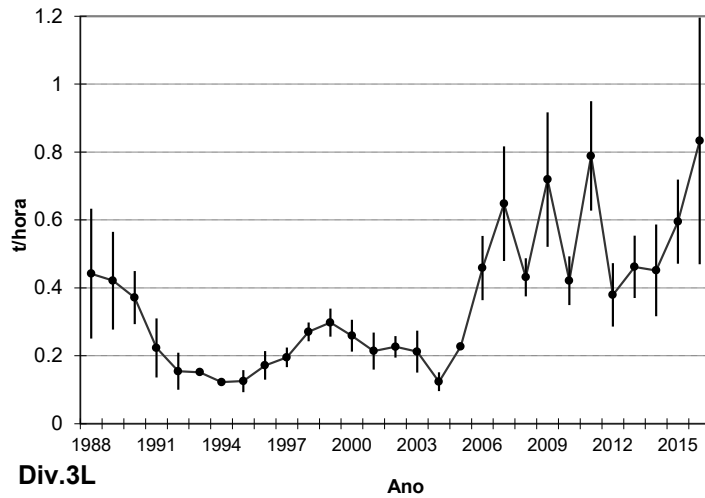


Fig. 1: Greenland halibut trawl catch rates by division, 1988 - 2016.

