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Russian Research Report for 2011

by

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SUBAREAS 1+2**A. Status of Fisheries***Greenland halibut*

The directed trawl fishery for Greenland halibut was conducted in August-December. In accordance with quota allocation for two areas, the fishery off the West Greenland was carried out north of 68° N (Div. 1A) and south of 68° N (Divs. 1CD).

In the area north of 68° N, five trawlers were engaged in the fishery. The trawlers fished in the comparatively small area between 69°06' N–70°06' N and 58°58' W–60°54' W at the depths of 880 – 1,160 m. According to the preliminary data, the catch was 648.0 t. The catch rates varied by months from 8.6 t to 17.3 t and averaged 10.5 t per fishing vessel day. There was a bycatch of 5.0 t of skate (Table 2).

In the area south of 68° N, up to five Russian trawlers participated in the fishery. The trawlers operated from August to December in the area between 63°26' N– 64°29' N and 55°06' W– 58°00'W at the depths of 995–1,500 m. The catch rates per fishing vessel day ranged from 6.0 t to 12.9 t and averaged 9.7 t. According to the preliminary data, the catch of Greenland halibut was 1,224.4 t. Bycatch consisted of northern wolffish (7.0 t) and roughhead grenadier (6.0 t)

On the whole, in the area off the West Greenland, the annual catch of Greenland halibut by Russian fleet amounted to 1,873 t (Table 1). In the bycatch skates, northern wolffish, roughhead grenadier were found (Table 2). There were no discards in the fishery.

Other fish species

There was no directed fishery for other fish species.

B. Research Studies

Biological data on Greenland halibut from Divs. 1AD were collected by observers aboard Russian fishing vessels. Studies included mass measuring and age sampling from selected species.

Greenland halibut

In Div. 1A, the length of Greenland halibut in catches ranged from 25 to 92 cm, specimens as long as 46 – 50 cm prevailed. The mean length of males was 47.4 cm, of females – 50.3 cm (Table 3). Sex ratio was approximately 1.1:1.

In Div. 1D, the catches were composed of individuals from 27 to 112 cm in length, fish as long as 50–54 cm prevailed. The mean length of males was 51.5 cm, of females – 59.7 cm. Sex ratio was 1.4: 1.

In Divs. 1AD, the age of Greenland halibut varied from 4 to 14 years, fish aged 7-8 years prevailed (Table 4).

Vulnerable Marine Ecosystems

Small numbers of coldwater corals *Anthoptilum* and *Stauropathes* were found in the catches of fishing vessels (Table 5).

Marine mammals

In the course of the observations made from fishing vessels, in October, in Divs. 1AD, the bottle-nosed dolphins and sperm whales were occasionally registered (Table 6).

SUBAREA 3

A. Status of Fisheries

Greenland halibut

Four trawlers were engaged in the directed fishery from March to December. The trawlers were fishing in the areas of the continental slope adjacent to the deep-water Flemish Pass (Div. 3L) between 46°15' N – 48°18' N at 750 –1,900 m depths. Sometimes the vessels also fished in Div. 3M and 3N, at 710-1,340 m depths. As a whole, in the area, the catch rates per fishing vessel day ranged from 1.1 t to 13.0 t and averaged 8.4 t, per hauling hour - 0.53 t.

The annual catch taken by Russian vessels in the directed fishery for Greenland halibut amounted to 1,620.1 t of Greenland halibut. In addition, 6.9 t of Greenland halibut were caught when fishing for redfish species. According to the preliminary data, the total catch of Greenland halibut was 1,627.0 t with a national quota of 1,624.0 t (Table 1). The bycatch consisted of roughhead and roundnose grenadiers, red hake, deep-sea redfish, American plaice, witch flounder and northern wolffish (Table 7). In the fishery, the discards were composed of 2.3 t of different bottom fish species.

Cod

From January to April, on the Flemish Cap Bank, the directed fishery for cod was conducted by two medium tonnage trawlers between 46°25' N – 47°34' N and 44°57' W – 46°25' W, at the depths of 180 – 500 m. In June-September, fishery was carried out by one trawler between 46°27' N – 47°09' N and 45°09' W – 45°38' W, at the 240-450 m depths. The catch rates varied from 0.5 to 18.2 t per fishing vessel day averaging 19.1 t per fishing vessel day and 2.48 t per hauling hour.

During the year, the trawlers engaged in the directed fishery caught 502.0 t under a national quota of 647.0 t. Moreover, 153.0 t of cod were caught when fishing redfishes. According to the preliminary data,

the total Russian catch reached 654.7 t (Table 1). The bycatch was composed of 50.2 t of redfish, 0.1 t of American plaice and 0.1 t of witch flounder.

Atlantic redfishes

On the Flemish Cap Bank, fishery was conducted by bottom trawls, occasionally, from January to November, in the area between 46°24' N - 48°23' N and 46°29' W - 43°53' W, at the depths of 145-1,000 m during 63 vessel days. The catch rate varied from 9.9 to 41.3 t and averaged 28.2 t per fishing vessel day.

On the whole, the annual catch of the Atlantic redfishes taken by Russian vessels in the directed fishery was 1,522.0 t. In addition, 51.0 t of redfishes were caught in the Greenland halibut fishery. Thus, in Div. 3M, the total Russian catch of Atlantic redfishes amounted to 1,573.0 t (Table 1). The bycatch included cod and witch flounder (Table 8).

In Div. 3O, Russian trawlers fished by bottom trawls occasionally, from March to September. The fishery was conducted between 43°06' N – 43°29' N and 51°48' W – 51°05' W, at the depths of 140 – 500 m. The highest catch rate was recorded in May and June, when the values were 30.4 t and 33.9 t per fishing vessel day, respectively. According to the live data from PINRO, on the whole, the annual Russian catch of Atlantic redfishes taken in the directed fishery was 573.0 t (Table 1). Bycatches included American plaice, cod, Greenland halibut and white hake which occurred sporadically (Table 8).

In Divs. 3LN, Russian vessels fished by trawls, between 42°50' N – 48°07' N and 49°57' W – 47°13' W at the depths of 260 – 830 m, from May to December. When fishing by bottom trawl the catch rate ranged from 5.0 t to 35.8 t and averaged 21.7 t per fishing vessel day. The highest catch rate values were recorded in June and December when they were 26.7 t and 48.9 t per fishing vessel day respectively.

In June, during 15 fishing vessel days, 1 trawler fished concentrations of deep-sea redfish by pelagic trawl (fishing depth was 290-475 m) with the daily catch rate of 35.8 t.

According to the preliminary data, the annual Russian catch of Atlantic redfishes taken in the directed fishery reached 1,676.0 t. In bottom fishery, the bycatch consisted of cod, Greenland halibut, witch flounder and northern wolffish (Table 8). In the pelagic fishery, there were no observed bycatches of other species as well as registered discards. At the same time, about half of redfish catches (based on visual observation) escaped through the trawl codend mesh and stayed on the sea surface in the nonviable state. Redfish species (19.0 t) were also caught in the fishery of Greenland halibut.

By the preliminary data, the total catch of Atlantic redfishes in Divs. 3LN was equal to 1,695.0 t (Table 1).

Yellowtail flounder (Limanda ferruginea)

In Div.3N, directed trawl fishery was carried out for a short period, between 43°21' N – 44°34' N and 49°06' W – 50°24' W, at the depths of 60-80 m, in March and April. Two trawlers participated in the fishery. The catch rate equaled to 16.3 t per a fishing vessel day. In total, 82.0 t of yellowtail flounder were caught in the directed fishery (Table 1). The bycatch comprised the American plaice – 8.4 t, cod – 0.5 t and redfishes – 0.3 t. There were no discards observed.

Other fish species

There was no directed fishery for other species. The bycatch of other fish species during the directed

fisheries amounted to 1 – 15%.

B. Research Studies

There were no special surveys to assess the stocks of target species. Biological data were collected by NAFO observers aboard fishing vessels. Studies included mass measuring and age sampling from selected species.

Greenland halibut (Reinhardtius hippoglossoides)

In Div. 3L, Greenland halibut from 16 to 94 cm in length occurred, mean length was 49.3 cm. Individuals as long as 46 – 50 cm prevailed (Table 9).

In Div. 3M, according to the measurement of 2 fish, the length of Greenland halibut was 42-44 cm.

In Div. 3N, the length of Greenland halibut varied from 30 to 88 cm, mainly being equaled to 48-52 cm. The mean length was 50.9 cm.

In general, the length of Greenland halibut in Divs. 3LMNO was 18-96 cm, the mean length was 49.4 cm (Table 9).

In Divs. 3LN, the age of halibut varied from 4 to 17 years old, primarily, the fish was 6-8 years old (Table 10).

Roughhead grenadier (Macrourus berglax)

The total length of individuals in the catches from Div. 3L ranged from 22 to 93 cm; the length of 43-48 cm prevailed, the mean length was 51.2 cm (Table 11).

The length of roughhead grenadier in Div. 3N varied from 31 cm to 81 cm. Fish 46-48 cm in length made up the bulk of the catches. The mean length was 49.2 cm

In general, roughhead grenadier as long as 22-93 cm with the mean length of 50.9 cm occurred in Divs. 3LMNO (Table 11).

Roundnose grenadier (Coryphaenoides rupestris)

In Div. 3L, the total length of individuals ranged from 10 to 76 cm (Table 12), mainly amounting to 43-48 cm. The mean length was 42.9 cm.

Acadian redfish (Sebastes fasciatus)

In Div. 3M, the length distribution in catches was represented by individuals as long as 14-39 cm, mean length of females was 27.6 cm and of males – 25.3 cm. Individuals 24-26 cm in length predominated in catches (Table 13).

In Div. 3L, the Acadian redfish as long as 17-41 cm were caught. The mean length of females was 26.9 cm, of males – 24.7 cm. Fish with 24-25 cm length prevailed (Table 14). The age varied from 6 to 19 years mainly being 7-9 (Table 15).

In Div. 3N, redfish with the length ranged from 18 to 37 cm were found. Individuals with length of 21-22 cm made up the bulk of the catches. The mean length of males was 23.5 cm, of females – 25.2 cm (Table 14).

In Div. 3O, the Acadian redfish individuals as long as 18-39 cm and, primarily, 20-22 cm were typical. The mean length of males was 21.5 cm, of females – 22.6 cm. (Table 16).

Deep-sea redfish (Sebastes mentella)

In Div. 3L, the length of individuals varied from 18 to 47 cm, being mainly 27-32 cm. The mean length was 29.0 cm. Redfish aged 11-13 made up the bulk of the catches (Table 18).

In Div. 3M, the length distribution varied from 16 to 42 cm, the mean length was 28.1 cm (Table 13).

In Div. 3N, the redfish were caught as single individuals and had the length between 31 and 42 cm (Table 17).

Golden redfish (Sebastes marinus)

In Div. 3M, fish length ranged from 22 to 53 cm and averaged 34.4 cm (Table 13).

In Divs. 3LN, single fish with length of 31-57 cm were caught (Table 19).

In Div. 3O, the golden redfish were captured as single specimens with length varying from 41 to 51 cm (Table 16).

American plaice (Hippoglossoides platessoides)

In Div. 3L, in the fishery of Greenland halibut, the length distribution of that species in the bycatches was represented by fish 23-56 cm in length. The mean length was 38.7 cm (Table 20).

In Div. 3M, in the redfish species fishery, in the bycatches, the length varied from 31 to 52 cm averaging 38.8 cm.

In Div. 3N, in the skate species fishery, the length distribution of American plaice varied from 31 to 44 cm in the bycatches.

Witch flounder (Glyptocephalus cynoglossus)

In Div. 3L, in the Greenland halibut fishery, the bycatches of that species were represented by fish 23-56 cm in length averaging 40.1 cm (Table 21).

On the Flemish Cap Bank, fish length ranged from 41 to 52 cm. The mean length was 45.5 cm.

In Div. 3N, the witch flounder length varied from 31 to 60 cm. It was, primarily, 41-42 cm averaging 44.3 cm.

In Div. 3O, the length distribution was represented by 27-48 cm fish. The mean length equaled to 36.9 cm.

Cod (Gadus morhua)

On the Flemish Cap Bank, the length of cod amounted to 21-128 cm, being mainly 60-66 cm and averaging 64.0 cm (Table 22).

In Div. 3N, cod were captured as single fish and the mean length was 48.3 cm.

In Div. 3L, some individuals with the mean length of 47.1 cm were sporadically caught (Table 13)

Threebeard rockling (Gaidropsarus ensis)

In Div. 3L, the length of threebeard rockling varied from 28 to 51 cm, the mean length amounted to 39.7 cm (Table 23). Individuals as long as 37-39 cm made up the bulk of the catches.

White hake (Urophycis tenuis).

In Div. 3L, fish length ranged from 22 to 51 cm reaching 40.6 cm, on the average (Table 24). Mainly, individuals 40-42 cm in length were found.

In Div. 3N, a single specimen caught had the length of 44 cm.

Thorny skate (Amblyraja radiata)

In Div. 3L, in the fishery of Greenland halibut, some specimens as long as 33-84 cm (Table 25) and mainly, 59-63 cm occurred.

In Div. 3M, the length of thorny skate varied from 53 to 86 cm. the mean length amounted to 59.8 cm.

In Div. 3N, skate length distribution ranged from 38 to 86 cm. The mean length equaled to 58.0 cm.

In Div. 3O, fish with 69-92 cm length, 80.6 cm, on the average, were caught as single specimens.

Black dogfish (Centroscyllium fabricii)

Black dogfish were taken as a bycatch in the Greenland halibut fishery. In Divs. 3LMNO, the length of males varied from 43 to 75 cm, the mean length amounted to 61.3 cm (Table 26). Among females, the individuals as long as 43-78 cm, with the mean length of 66.6 cm, occurred. Fish as long as 61-66 cm predominated in the catches.

Northern wolffish (Anarhichas denticulatus)

In Div. 3L, the length of Northern wolffish varied from 34 to 120 cm. It was mainly 61-63 cm with the mean one of 65.7 cm (Table 27). In Div. 3M, fish as long as 52-108 cm were caught as a bycatch. The mean length was 83.3 cm.

In Div. 3N, the length distribution ranged from 46 to 75 cm. The mean length was 59.5 cm.

Blue hake (Antimora rostrata)

In Divs. 3LN, the length distribution of blue hake was represented by individuals 22-60 cm in length with the mean length of 37.3 (Table 28). Specimens 31-33 cm in length made up the bulk of the catches.

Marlin-spine grenadier (Nezumia bairdii)

In Divs. 3LNO, the total length of fish varied from 19 to 48 cm. The mean length amounted to 34.7 cm (Table 29).

Atlantic halibut (Hippoglossus hippoglossus)

In Divs. 3LN, single fish were caught. Length distribution varied from 73 to 160 cm. The mean length was 120.8 cm.

Other fish species

In the course of the fishery, small numbers of spotted (*Anarchicas minor*) and Atlantic wolffishes (*Anarchicas lupus*), blue ling (*Molva dypterigia*), longfin hake (*Phycis chesteri*), spiny eels (*Notacanthus spp.*) and other fish species were found in the bycatches.

Vulnerable marine ecosystems

According to the results from the research made by observers, the captures of cold-water corals with the total weight of not more than 2.5 kg were registered. The bulk of the bycatches was made up by corals from *Anthoptillium* and *Stauropathes* genera. Also, the representatives of *Pennatula* and other species were found (Table 30).

Marine mammals

Dolphins, bottle-nosed dolphins, sperm and pilot whales were recorded in Divs. 3LMN during the observations conducted aboard fishing vessels in March, April, May, June and September (Table 31).

TABLE 1. Preliminary catches taken by Russian trawlers in NAFO SA 1-3 in 2011.

Species	Division	Catch, t
Greenland halibut	1A	648
	1C	162
	1D	1063
	1ACD	1873
Greenland halibut	3L	1511
	3M	36
	3N	79
	3O	1
	3LMNO	1627
White hake	3L	4
	3M	+
	3O	2
	3LNO	2
American plaice	3L	3
	3M	+
	3N	11
	3O	3
	3LMNO	17
Yellowtail flounder	3N	82
	3N	82
Witch flounder	3L	2
	3M	4
	3N	3
	3LMN	9

Roughhead grenadier	1D	6
	1D	6
Roughhead grenadier	3L	23
	3M	1
	3N	6
	3LMN	30
Roundnose grenadier	3L	7
	3M	7
	3N	+
	3LMN	14
Redfish spp.	3L	1130
	3M	1573
	3N	565
	3O	573
	3LMNO	3841
Skate	1A	5
	1A	5
Skate	3L	+
	3N	7
	3LN	7
Atlantic cod	3L	107
	3M	655
	3N	2
	3O	9
	3MNO	773
Wolffish spp.	1D	7
	1D	7
Wolffish spp.	3L	28
	3M	+
	3N	3
	3LMN	31

TABLE 2. Bycatch in directed Greenland halibut fishery by Russian bottom trawlers from NAFO Divs. 1AD in 2011.

Species	Bycatch, t
Division 1A	
Skates	5
Division 1D	
Northern wolffish	7
Roughhead grenadier	6
Total	
Skates	5
Northern wolffish	7
Roughhead grenadier	6

TABLE 3. Greenland halibut (*Reinhardtius hippoglossoides*) length composition (ind.) in the Russian trawl catches in NAFO Divs. 1AD in 2011.

Length, cm	1A			1D			Total 1AD		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
25	1		1			0	1		1
27	1		1	1		1	2		2
29	8		8			0	8		8
31	7	2	9			0	7	2	9
33	18	9	27	1		1	19	9	28
35	27	12	39	5	6	11	32	18	50
37	59	36	95	21	9	30	80	45	125
39	122	72	194	49	23	72	171	95	266
41	226	120	346	181	48	229	407	168	575
43	401	234	635	435	112	547	836	346	1182
45	497	328	825	880	205	1085	1377	533	1910
47	518	381	899	1520	334	1854	2038	715	2753
49	463	359	822	1826	483	2309	2289	842	3131
51	281	300	581	1932	511	2443	2213	811	3024
53	207	230	437	1872	701	2573	2079	931	3010
55	106	198	304	1372	721	2093	1478	919	2397
57	55	141	196	790	754	1544	845	895	1740
59	25	78	103	366	635	1001	391	713	1104
61	23	64	87	188	581	769	211	645	856
63	22	37	59	94	557	651	116	594	710
65	9	44	53	39	353	392	48	397	445
67	5	20	25	25	240	265	30	260	290
69	6	11	17	15	212	227	21	223	244
71		4	4	9	165	174	9	169	178
73		8	8	5	150	155	5	158	163
75		4	4	2	128	130	2	132	134
77		4	4		99	99		103	103
79		3	3		82	82		85	85
81					76	76		76	76
83		1	1		69	69		70	70
85		4	4		47	47		51	51
87		2	2		26	26		28	28
89		1	1		38	38		39	39
91		2	2		23	23		25	25
93					22	22		22	22
95					18	18		18	18
97					17	17		17	17
99					11	11		11	11
101					4	4		4	4
103					3	3		3	3
105									
107									
109					1	1		1	1
111					2	2		2	2
Total	3087	2709	5796	11628	7466	19094	14715	10175	24890
Mean length, cm	47.4	50.3	48.8	51.5	59.7	54.7	50.7	57.2	53.3

TABLE 4. Greenland halibut (*Reinhardtius hippoglossoides*) age-length composition (ind.) in the Russian trawl catches in NAFO Divs. 1AD in 2011.

Length, cm	Age, years											Total	Weight, g
	4	5	6	7	8	9	10	11	12	13	14		
30	1											1	235
32												0	0
34	2											2	290
36												0	0
38		3										3	456.7
40		2	5									7	557.9
42		1	9									10	645
44			9	3								12	752.1
46			5	17								22	860.7
48			2	22	3							27	961.3
50			0	10	7							17	1112.9
52				11	10	1						22	1228.6
54				3	16	1						20	1340
56					9	4						13	1478.8
58					3	7	4					14	1915
60						6	6	3				15	1956
62						1	5	5	2			13	2104.6
64							2	3	1			6	2340
66							2	6	2			10	2721.5
68								1	3	1		5	3096
70									2			2	3217.5
72									1	3		4	4052.5
74										1		1	3580
76										1	2	3	4786.7
78										1	1	2	4477.5
80												0	0
82											1	1	5690
Total	3	6	30	66	48	20	19	18	11	7	4	232	
Mean weight, g	271.7	516.7	708.7	988.4	1387	1737.3	2022.4	2375.3	3031.8	4166.4	4620	232	1525.5
Mean length, cm	33.0	39.7	43.8	48.9	53.7	58.4	61.6	63.9	67.6	73.4	78.3	232	53.6

Table 5. Catches of cold-water corals off West Greenland in 2011.

Date	Trawling coordinates	Fishing depth, m	Species	Number	Weight (kg)
25.09.	63°51'N 57°12'W	1160	<i>Stauropathes</i> spp.	NA	0,200
25.09.	63°51'N 57°12'W	1160	<i>Anthoptilum</i> spp.	NA	0,300
26.09.	63°43'N 57°11'W	1400	<i>Anthoptilum</i> spp.	NA	2,5
26.09.	63°35'N 57°48'W	1500	<i>Anthoptilum</i> spp.	NA	2
27.09.	63°31'N 58°00'W	1500	<i>Anthoptilum</i> spp.	NA	2
28.09.	63°29'N 57°59'W	1500	<i>Anthoptilum</i> spp.	NA	1,5
08.10.	63°43'N 57°56'W	1300	<i>Anthoptilum</i> spp.	NA	0,300
10.10.	63°50'N 57°52'W	1200	<i>Anthoptilum</i> spp.	NA	0,301
14.10.	63°38'N 57°55'W	1500	<i>Anthoptilum</i> spp.	NA	1,5
17.10.	63°38'N 57°55'W	1500	<i>Stauropathes</i> spp.	NA	0,150
17.10.	63°38'N 57°55'W	1500	<i>Anthoptilum</i> spp.	NA	0,500
17.10.	63°38'N 57°55'W	1500	<i>Anthoptilum</i> spp.	NA	0,200
18.10.	63°36'N 57°46'W	1500	<i>Stauropathes</i> spp.	NA	0,500
18.10.	63°36'N 57°47'W	1500	<i>Anthoptilum</i> spp.	NA	0,300
18.10.	63°28'N 57°58'W	1500	<i>Anthoptilum</i> spp.	NA	0,800
19.10.	63°38'N 57°58'W	1500	<i>Anthoptilum</i> spp.	NA	0,400
20.10.	63°38'N 57°55'W	1500	<i>Stauropathes</i> spp.	NA	1,5
20.10.	63°38'N 57°54'W	1500	<i>Anthoptilum</i> spp.	NA	0,300
21.10.	63°38'N 57°54'W	1500	<i>Stauropathes</i> spp.	NA	1,5
21.10.	63°30'N 58°00'W	1500	<i>Anthoptilum</i> spp.	NA	1
22.10.	63°29'N 57°59'W	1500	<i>Anthoptilum</i> spp.	NA	1,5
24.10.	63°28'N 57°59'W	1500	<i>Anthoptilum</i> spp.	NA	2,5
25.10.	63°38'N 57°53'W	1500	<i>Anthoptilum</i> spp.	NA	0,400
29.10.	63°29'N 57°59'W	1500	<i>Anthoptilum</i> spp.	NA	0,200
30.10.	63°29'N 57°59'W	1500	<i>Stauropathes</i> spp.	NA	1,3
30.10.	63°28'N 57°59'W	1500	<i>Anthoptilum</i> spp.	NA	0,350
31.10.	63°30'N 58°00'W	1500	<i>Anthoptilum</i> spp.	NA	0,800
01.11.	63°31'N 57°59'W	1500	<i>Anthoptilum</i> spp.	NA	1,4
01.11.	63°30'N 57°59'W	1500	<i>Anthoptilum</i> spp.	NA	0,300
03.11.	63°47'N 57°14'W	1500	<i>Anthoptilum</i> spp.	NA	0,150
14.11.	63°38'N 57°54'W	1250	<i>Stauropathes</i> spp.	NA	0,500
15.11.	63°36'N 57°54'W	1500	<i>Anthoptilum</i> spp.	NA	0,300
15.11.	63°52'N 57°51'W	1500	<i>Anthoptilum</i> spp.	NA	0,350
20.11.	63°48'N 57°15'W	1200	<i>Anthoptilum</i> spp.	NA	0,100
20.11.	63°51'N 57°49'W	1250	<i>Anthoptilum</i> spp.	NA	0,250
21.11.	63°43'N 57°56'W	1200	<i>Stauropathes</i> spp.	NA	0,200
21.11.	63°43'N 57°56'W	1200	<i>Anthoptilum</i> spp.	NA	0,300
10.10.	63°24'N 39°07'W	1008	<i>Porifera</i> gsp.	NA	1200

Table 6. Occurrence of marine mammals off West Greenland in 2011.

Date	Coordinates N-W	Reported species	Quantity	Remarks
25.09- 21.11	70°01'- 63°26' N 60°51'- 57°10' W	Bottle-nosed dolphin Sperm whale	2 2-4	Observed when hauling the trawl

TABLE 7. Bycatch in directed Greenland halibut fishery by Russian bottom trawlers from NAFO Divs. 3LMNO in 2011.

Species	Bycatch, t
Redfish	15
Witch flounder	4
American plaice	3
Northern wolffish	30
Roughhead grenadier	30
Roundnose grenadier	12
White hake	4

Table 8. Bycatch in directed redfish fishery by Russian bottom trawlers from NAFO Divs. 3LMNO in 2011.

Species	Bycatch, t
Division 3LN	
Greenland halibut	3
Cod	21
Witch flounder	1
American plaice	1
Northern wolffish	1
Division 3M	
Cod	153
Witch flounder	4
Division 3O	
Greenland halibut	1
Cod	9
American plaice	3
White hake	2
Total	
Greenland halibut	4
Cod	183
Witch flounder	5
American plaice	4
Northern wolffish	1
White hake	2

TABLE 9. Greenland halibut (*Reinhardtius hippoglossoides*) length composition (ind.) in the Russian trawl catches in NAFO Divs. 3LMN in 2011.

Length, cm	Division 3L								Division 3M		Division 3N				Total
	III	IV	V	VI	VII	VIII	IX	Total	IX	Total	V	VII	VIII	Total	3LMN
15						1		1							1
17															
19															
21						1		1							1
23															
25			1			1	2	4							4
27				2	2	6		10							10
29		1	4	1	3	6	2	17			1			1	18
31	1	16	27	22	3	19	2	93			4	1		5	98
33	1	34	78	48	8	38	9	220			11	0		11	231
35		92	130	72	19	68	16	401			15	4	2	21	422
37	3	126	178	105	47	119	24	615			24	9	1	34	649
39	11	222	351	196	74	209	45	1120			48	14	2	64	1184
41	22	359	609	402	152	465	119	2143	1	1	78	20	5	103	2247
43	27	530	975	536	263	691	203	3242	1	1	108	38	23	169	3412
45	33	652	1234	673	455	974	246	4285			99	56	22	177	4462
47	37	813	1482	736	553	1129	219	4990			156	84	30	270	5260
49	28	715	1280	536	470	1014	185	4242			146	77	35	258	4500
51	24	588	1094	292	419	820	139	3382			130	81	36	247	3629
53	10	445	842	206	376	748	114	2746			111	76	34	221	2967
55	7	375	658	166	326	571	95	2199			112	64	21	197	2396
57	2	262	445	112	221	427	61	1531			69	61	31	161	1692
59	4	143	280	74	154	289	44	988			32	36	19	87	1075
61	4	76	184	47	95	200	38	644			26	22	18	66	710
63	2	54	119	25	58	129	26	413			12	14	12	38	451
65	1	43	73	21	52	71	14	275			11	11	3	25	300
67	1	31	42	14	36	40	2	166			7	4	6	17	183
69	1	24	35	7	33	15	3	118			8	4	3	15	133
71		19	28	8	18	25	8	106			4	5	2	11	117
73		15	24	1	18	18	4	80			2		2	4	84
75		6	15	7	12	13	3	56			1		1	2	58
77		7	8	3	11	9	5	43				1	2	3	46
79		8	6	3	5	12	3	37							37
81		6	5	1	3	6	1	22							22
83	1	1	3		1	2	1	9				2	1	3	12
85		1	5			5	1	12			1	1	1	3	15
87		2	1	2	2	5	2	14					3	3	17
89					1		1	2							2
91			1		1	1		3							3
93						1		1							1
Total	220	5666	10217	4318	3891	8148	1637	34231	2	2	1216	685	315	2216	36449
Mean length, cm.	47.8	49.1	49.2	47.3	51.0	49.9	49.1	49.3	42.5	42.5	49.6	51.9	53.8	50.9	49.4

TABLE 10. Greenland halibut (*Reinhardtius hippoglossoides*) age-length composition (ind.) in the Russian trawl catches in NAFO Divs. 3LN in 2011.

Length, cm	Age, years														Total	Weight, g
	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
30	1	2													3	226.7
32	2	1													3	278.3
34	1	1	1												3	331.7
36	3	1	2												6	405.8
38		8	6												14	465.7
40		2	11	2											15	550
42		1	7	4	1										13	641.5
44			6	3	1										10	753.5
46				10	4										14	838.9
48				5	3										8	981.3
50				3	10										13	1015.4
52				1	7	3									11	1194.5
54					6	3	1								10	1291.5
56						11	1								12	1542.1
58						7	4	2							13	1729.6
60						1	2	1							4	1887.5
62							3	2							5	2080
64								3	7						10	2443.5
66									2						2	2845
68									1						1	3010
70										2					2	3185
72										1	2				3	3411.7
74											1	1			2	4287.5
76															0	0
78												1			1	7120
80												1	1		2	6540
82													1		1	6430
84															0	0
86														1	1	6645
Total	7	16	33	28	32	25	11	8	10	3	3	3	2	1	182	
Mean weight, g	327.1	435.3	570.5	831.3	1072.5	1520.2	1767.7	2184.4	2591.5	3251.7	3525	5980	6770	6645	182	1346
Mean length, cm	34.3	37.2	40.9	46.3	50.6	56.5	59.4	62.0	65.2	71.0	72.7	77.7	82.0	86.0	182	50.7

TABLE 11. Roughhead grenadier (*Macrourus berglax*) length composition (ind.) in the Russian trawl catches in NAFO Divs. 3LN in 2011.

Total length, cm	3L	3N	3LN
22	1		1
25	6		6
28	18		18
31	27	4	31
34	99	14	113
37	162	22	184
40	290	32	322
43	367	58	425
46	376	67	443
49	278	45	323
52	224	27	251
55	169	12	181
58	125	20	145
61	112	8	120
64	112	7	119
67	100	7	107
70	80	6	86
73	55	6	61
76	42	4	46
79	25	2	27
82	19		19
85	7		7
88	3		3
91	1		1
Total	2698	341	3039
Mean length, cm	51.2	49.2	50.94

TABLE 12. Roundnose grenadier (*Coryphaenoides rupestris*) length composition (ind.) in the Russian trawl catches in NAFO Div. 3L in 2011.

Total length, cm	3L
10	1
13	
16	4
19	8
22	13
25	12
28	15
31	6
34	16
37	28
40	35
43	41
46	50
49	24
52	19
55	9
58	13
61	7
64	5
67	4
70	
73	1
76	2
Total	313
Mean length, cm	42.9

TABLE 13. Length composition (ind.) of *S. fasciatus*, *S. mentella* and *S. marinus* in the Russian trawl catches in NAFO Div. 3M in 2011.

Length, cm	<i>S. mentella</i>			<i>S. fasciatus</i>			<i>S. marinus</i>			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
14				1		1				1		1
15												
16	1	1	2							1	1	2
17					1	1					1	1
18												
19	1		1		1	1				1	1	2
20	1	7	8		1	1				1	8	9
21	10	1	11	6	4	10				16	5	21
22	34	8	42	30	5	35				65	13	78
23	50	21	71	44	17	61				94	38	132
24	49	25	74	79	32	111		1	1	128	58	186
25	51	32	83	64	51	115	1		1	116	83	199
26	28	30	58	33	59	92	2		2	63	89	152
27	14	24	38	17	46	63		1	1	31	71	102
28	27	23	50	16	53	69	4	3	7	47	79	126
29	25	21	46	7	31	38	3	3	6	35	55	90
30	54	25	79	13	27	40	4	3	7	71	55	126
31	44	23	67	11	39	50	9	4	13	64	66	130
32	18	26	44	5	26	31	12	9	21	35	61	96
33	12	38	50	8	14	22	6	10	16	26	62	88
34	4	28	32	3	6	9	7	9	16	14	43	57
35	2	34	36		2	2	9	7	16	11	43	54
36	1	16	17		2	2	2	9	11	3	27	30
37		7	7				1	10	11	1	17	18
38		7	7		1	1	1	11	12	1	19	20
39		2	2		1	1	2	9	11	2	12	14
40		2	2					4	4		6	6
41								2	2		2	2
42		1	1								1	1
43												
44								1	1		1	1
45												
46								1	1		1	1
47								3	3		3	3
48								1	1		1	1
49												
50								1	1		1	1
51												
52												
53								1	1		1	1
Total	426	402	828	337	419	756	64	103	167	827	924	1751
Mean length, cm	26.8	29.6	28.1	25.3	27.6	26.6	32.1	35.9	34.4	26.6	29.4	28.1

TABLE 14. Length composition (ind.) of *S. fasciatus* in Russian trawl catches in NAFO Divs. 3LN in 2011.

Length, cm	Division 3L			Division 3N			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
17	2		2				2		2
18	10	4	14	19	9	28	29	13	42
19	34	13	47	101	52	153	135	65	200
20	88	61	149	295	247	542	383	308	691
21	136	109	245	396	411	807	532	520	1052
22	145	180	325	337	522	859	482	702	1184
23	169	171	340	165	320	485	334	491	825
24	275	178	453	131	144	275	406	322	728
25	340	191	531	146	99	245	486	290	776
26	270	128	398	93	90	183	363	218	581
27	152	131	283	53	78	131	205	209	414
28	71	142	213	15	71	86	86	213	299
29	48	141	189	3	90	93	51	231	282
30	47	160	207	1	82	83	48	242	290
31	34	118	152	1	64	65	35	182	217
32	23	104	127		56	56	23	160	183
33	14	68	82		33	33	14	101	115
34	3	58	61		20	20	3	78	81
35	3	37	40		6	6	3	43	46
36	3	24	27		4	4	3	28	31
37	1	11	12		3	3	1	14	15
38	1	12	13				1	12	13
39	1	5	6				1	5	6
40		2	2					2	2
41		2	2					2	2
Total	1870	2050	3920	1756	2401	4157	3626	4451	8077
Mean length, cm	24.7	26.9	25.8	22.2	23.7	23.1	23.5	25.2	24.4

TABLE 15. Acadian redfish (*S. fasciatus*) age-length composition (ind.) in the Russian trawl catches in NAFO Div. 3L in 2011.

Length, cm																Total	Weight, g
	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
19	1														1	95	
20	6														6	110	
21	4	6													10	118.5	
22	1	8	1												10	137.5	
23		4	4												8	158.1	
24		5	7												12	184.6	
25		1	5	5											11	220.5	
26			3	4	1										8	251.3	
27			1	6	3										10	279	
28				4	4	1									9	295.6	
29				2	3	6									11	328.2	
30					1	7	2								10	388	
31						2	7	1							10	414.5	
32							3	8							11	458.2	
33							3	2	1						6	478.3	
34							1	1	1						3	553.3	
35								1	4						5	606	
36									1	2					3	736.7	
37										1	1				2	732.5	
38											1	3			4	802.5	
39												1	1		2	665	
40															0	0	
41														1	1	1150	
Total	12	24	21	21	12	16	16	13	7	3	2	4	1	1	153		
Mean weight, g	112.1	147.7	196	275.7	309.2	358.4	436.3	476.2	607.1	761.7	737.5	830	390	1150	153	328.6	
Mean length, cm	20.4	22.5	24.4	26.7	28.0	29.6	31.6	32.5	34.7	36.3	37.5	38.3	39.0	41.0	153	27.8	

TABLE 16. Length composition (ind.) of *S. fasciatus* and *S. marinus* in Russian trawl catches in NAFO Div. 30 in 2011.

Length, cm	<i>S. fasciatus</i>			<i>S. marinus</i>			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
18	3	1	4				3	1	4
19	16	12	28				16	12	28
20	79	41	120				79	41	120
21	82	76	158				82	76	158
22	39	66	105				39	66	105
23	21	53	74				21	53	74
24	10	29	39				10	29	39
25	17	26	43				17	26	43
26	7	18	25				7	18	25
27	1	4	5				1	4	5
28	3	6	9				3	6	9
29		2	2					2	2
30		2	2					2	2
31	1		1				1		1
32		1	1					1	1
33		1	1					1	1
34		1	1					1	1
35									
36									
37									
38		1	1					1	1
39									
40									
41					1	1		1	1
42									
43									
44									
45									
46									
47									
48				1		1	1		1
49				1		1	1		1
50				1	1	2	1	1	2
51				1		1	1		1
Total	279	340	619	4	2	6	283	342	625
Mean length, cm	21.5	22.6	22.1	49.5	45.5	48.2	35.5	34.1	35.2

TABLE 17. Length composition (ind.) of Deep-sea redfish (*S. mentella*) in Russian trawl catches in NAFO Divs. 3LN in 2011.

Length, cm	Division 3L			Division 3N			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
18	1		1				1		1
19	10	8	18				10	8	18
20	21	29	50				21	29	50
21	42	38	80				42	38	80
22	58	58	116				58	58	116
23	80	63	143				80	63	143
24	77	76	153				77	76	153
25	85	68	153				85	68	153
26	76	93	169				76	93	169
27	108	101	209				108	101	209
28	77	106	183				77	106	183
29	75	109	184				75	109	184
30	69	131	200				69	131	200
31	69	134	203		1	1	69	135	204
32	91	115	206		1	1	91	116	207
33	77	103	180				77	103	180
34	78	78	156		2	2	78	80	158
35	64	66	130				64	66	130
36	39	41	80	2		2	41	41	82
37	30	25	55		1	1	30	26	56
38	19	25	44				19	25	44
39	5	14	19		1	1	5	15	20
40	3	7	10				3	7	10
41	1	3	4				1	3	4
42	2		2		1	1	2	1	3
43	1	3	4				1	3	4
44	1	1	2				1	1	2
45									
46									
47	1		1				1		1
Total	1260	1495	2755	2	7	9	1262	1502	2764
Mean length, cm	28.7	29.2	29.0	36.0	35.6	35.7	28.7	29.2	29

TABLE 18. Deep-sea redfish (*S. mentella*) age-length composition (ind.) in the Russian trawl catches in NAFO Div. 3L in 2011.

Length, cm	Age, years																Total	Weight, g
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
25	3																3	210
26		2															2	245
27		14	1														15	266.3
28		10	2														12	277.9
29		1	6	6													13	327.7
30			7	9	1												17	368.8
31			1	8	3	2											14	390
32				1	6	10											17	448.8
33					1	10	4										15	494
34						10	8	1									19	531.6
35						1	4	1	3								9	615.6
36							1	2	4	2							9	655.6
37							2	1	1	3	1						8	698.8
38									1	1	1	1					4	745
39										1	2	3					6	810.8
40																	0	0
41													1				1	1070
42																	0	0
43														1			1	930
44																	0	0
45																	0	0
46																	0	0
47																1	1	1620
Total	3	27	17	24	11	33	20	5	9	7	4	4	1	1	0	1	167	
Mean weight, g	210	266.3	315.9	374.6	433.6	487.9	568.8	639	657.2	724.3	780	831.3	1070	930	0	1620	167	471.1
Mean length, cm	25.0	27.4	29.3	30.2	31.7	32.9	34.1	35.6	36.0	37.1	38.3	38.8	41.0	43.0	0	47.0	167	32.1

TABLE 19. Length composition (ind.) of *S. marinus* in Russian trawl catches in NAFO Divs. 3LN in 2011.

Length, cm	Division 3L			Division 3N			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
31		1	1					1	1
32									
33	1	1	2				1	1	2
34	1	1	2				1	1	2
35	1		1				1		1
36	1		1				1		1
37		1	1					1	1
38	2		2				2		2
39	1		1				1		1
40		1	1					1	1
41									
42	1	2	3				1	2	3
43		1	1					1	1
44		1	1					1	1
45		1	1					1	1
46		2	2					2	2
47		1	1					1	1
48									
49									
50		2	2					2	2
51									
52									
53		2	2					2	2
54									
55		1	1					1	1
56									
57		1	1		1	1		2	2
Total	8	19	27		1	1	8	20	28
Mean length, cm	36.9	44.6	42.3		57.0	57.0	36.9	45.3	42.9

TABLE 20. Length composition (ind.) of american plaice (*Hippoglossoides platessoides*) in Russian trawl catches in NAFO Divs. 3LN in 2011.

Length, cm	3L	3M	3N	3LMN
23	1			1
25	3			3
27	14			14
29	25			25
31	46	2	1	49
33	66	6	6	78
35	55	3	2	60
37	37	7	5	49
39	54	4	3	61
41	51	11	1	63
43	64	2	1	67
45	40			40
47	29			29
49	12	1		13
51	8	1		9
53	3			3
55	3			3
Total	511	37	19	567
Mean length, cm	38.7	38.8	36.6	38.7

TABLE 21. Length composition (ind.) of witch flounder (*Glyptocephalus cynoglossus*) in Russian trawl catches in NAFO Divs. 3LMN in 2011.

Length, cm	3L	3M	3N	3O	3LMNO
23	3				3
25	5				5
27	17			1	18
29	16				16
31	10		1	2	13
33	13		4	1	18
35	31		5	1	37
37	47		11		58
39	78		28	2	108
41	55	2	49	2	108
43	61	3	29		93
45	55		27		82
47	34	2	35	1	72
49	12	1	26		39
51	3	1	15		19
53	1		5		6
55	1		2		3
57					
59			1		1
Total	442	9	238	10	699
Mean length, cm	40.1	45.5	44.3	36.9	41.6

TABLE 22. Length composition (ind.) of atlantic cod (*Gadus morhua*) in Russian trawl catches in NAFO Divs.
3LMN in 2011.

Length, cm	3L	3M	3N	3LMN
21		1		1
23				
25				
27		4		4
29	1	9		10
31		14		14
33	3	20		23
35	3	16		19
37	2	16		18
39	6	9		15
41	8	3	2	13
43	5	17		22
45	7	14	1	22
47	9	32		41
49	4	35	3	42
51	6	23	1	30
53	4	23		27
55	4	18		22
57	2	26	1	29
59	1	47		48
61	2	45		47
63		54		54
65	1	50		51
67	1	35		36
69		39		39
71		30		30
73		23		23
75		21		21
77		29		29
79	1	16		17
81		25		25
83		31		31
85		23		23
87		31		31
89		32		32
91		20		20
93		38		38
95		15		15
97		29		29
99		22		22
101		8		8
103		7		7
105		13		13
107		14		14
109		5		5
111		3		3
113				
115		1		1
117				
119				
121				
123				
125		1		1
127		1		1
Total	70	988	8	1066
Mean length, cm	47.1	69.4	48.3	67.8

TABLE 23. Length composition (ind.) of Threebeard rockling (*Gaidropsarus ensis*) in Russian trawl catches in NAFO Div. 3L in 2011.

Length, cm	Males	Females	Total
28			
31	5	2	7
34	19	13	32
37	28	42	70
40	9	50	59
43	1	40	41
46		10	10
49		1	1
Total	63	158	221
Mean length, cm	37.0	40.8	39.7

TABLE 24. Length composition (ind.) of white hake (*Urophycis tenuis*) in Russian trawl catches in NAFO Divs. 3LN in 2011.

Length, cm	Division 3L			Division 3N			Total 3LN		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
22	1	1	2				1	1	2
25	1		1				1		1
28	2	3	5				2	3	5
31	12	2	14				12	2	14
34	26	24	50				26	24	50
37	29	69	98				29	69	98
40	12	119	131				12	119	131
43	5	103	108		1		5	104	108
46		43	43					43	43
49		8	8					8	8
Total	88	372	460		1		88	373	461
Mean length, cm	36.5	41.6	40.6		44.0		36.5	41.6	40.6

TABLE 25. Length composition (ind.) of thorny skate (*Amblyraja radiata*) in Russian trawl catches in NAFO Div. 3L in 2011.

Length, cm	3L
43	1
46	2
49	5
52	4
55	1
58	1
61	5
64	4
67	1
70	2
73	1
76	3
79	1
82	
85	1
88	
91	
94	
97	1
100	
103	1
106	
109	
112	
115	1
118	
121	
124	
127	
130	
133	
136	
139	
142	
145	
148	1
151	
154	
157	
160	
163	
166	1
Total	38
Mean length, cm	68.7

TABLE 26. Length composition (ind.) of black dogfish (*Centroscyllium fabricii*) in Russian trawl catches in NAFO Divs. 3LN in 2011.

Length, cm	3L	3N	3LN
43	3		3
46	3		3
49	6		6
52	13	1	14
55	20	1	21
58	46	2	48
61	69	4	73
64	68	2	70
67	39		39
70	21		21
73	13		13
76	7		7
Total	308	10	318
Mean length, cm	63.1	60.5	63.0

TABLE 27. Length composition (ind.) of northern wolffish (*Anarhichas denticulatus*) in Russian trawl catches in NAFO Divs. 3LMN in 2011.

Length, cm	3L	3M	3N	3LMN
34	1			1
37	2			2
40	5			5
43	7			7
46	9		3	12
49	20		3	23
52	33	2	7	42
55	38		4	42
58	44		4	48
61	53		7	60
64	42		3	45
67	16		2	18
70	19		4	23
73	15	1	2	18
76	7			7
79	12			12
82	11			11
85	17	2		19
88	3	2		5
91	6	1		7
94	6			6
97				
100	6			6
103	2	1		3
106	3	1		4
109	2			2
112	2			2
115	1			1
118	1			1
Total	383	10	39	432
Mean length, cm	65.7	83.3	59.5	65.5

TABLE 28. Length composition (ind.) of blue hake (*Antimora rostrata*) in Russian trawl catches in NAFO Divs. 3LN in 2011.

Length, cm	3L	3N	3LN
22	11		11
25	36		36
28	49		49
31	60		60
34	51		51
37	34	1	35
40	22	4	26
43	27	6	33
46	34	5	39
49	21	9	30
52	12		12
55	6		6
58	1		1
Total	364	25	389
Mean length, cm	36.7	46.0	37.3

TABLE 29. Length composition (ind.) of marlin-spine grenadier (*Nezumia bairdii*) in Russian trawl catches in NAFO Divs. 3LNO in 2011.

Length, cm	3L	3N	3O	3LNO
19	3			3
22	5		1	6
25	16		2	18
28	51		2	53
31	117		5	122
34	254	1	1	255
37	176	3	3	179
40	34			34
43	2			2
46	2			2
Total	660	4	14	674
Mean length, cm	34.8	37.3	31.6	34.7

Table 30. Catches of cold-water corals in the NAFO Regulatory Area in 2011.

Date	Trawling coordinates	Fishing depth, m	Species	Number	Weight (kg)
02.04.	48°52'N 47°08'W	1070	<i>Anthoptilum spp.</i>	1	<0,100
14.04.	48°07'N 47°12'W	900	<i>Anthoptilum spp.</i>	1	<0,100
24.04.	48°10'N 47°04'W	1140	<i>Radicipes gracilis</i>	1	<0,100
27.04.	48°08'N 47°43'W	1050	<i>Anthoptilum spp.</i>	1	<0,100
07.05.	48°15'N 46°32'W	845	<i>Anthoptilum spp.</i>	1	<0,100
07.05.	48°06'N 47°04'W	980	<i>Anthoptilum spp.</i>	1	<0,100
08.05.	48°08'N 47°10'W	850	<i>Anthoptilum spp.</i>	1	<0,100
12.05.	48°07'N 47°03'W	940	<i>Anthoptilum spp.</i>	1	<0,100
11.05.	48°07'N 47°05'W	850	<i>Anthoptilum spp.</i>	1	<0,100
16.05.	48°09'N 47°47'W	1205	<i>Duva florida</i>	1	<0,100
17.05.	48°09'N 47°41'W	1100	<i>Duva florida</i>	1	<0,100
28.04.	46°43'N 46°37'W	1000	<i>Anthoptilum spp.</i>	3	0,040
28.04.	46°43'N 46°37'W	1080	<i>Stauropathes arctica</i>	1	0,060
29.04.	46°47'N 46°46'W	1130	<i>Anthoptilum spp.</i>	1	0,006
29.04.	46°47'N 46°46'W	1060	<i>Stauropathes arctica</i>	1	0,070
30.04.	47°06'N 47°11'W	750	<i>Anthoptilum spp.</i>	23	0,120
30.04.	47°06'N 47°11'W	770	<i>Stauropathes arctica</i>	1	0,040
30.04.	47°06'N 47°11'W	1050	<i>Duva florida</i>	5	0,080
02.05.	47°35'N 46°47'W	1020	<i>Anthoptilum spp.</i>	32	0,280
02.05.	47°35'N 46°47'W	1011	<i>Stauropathes arctica</i>	2	0,120
02.05.	47°35'N 46°47'W	1030	<i>Duva florida</i>	1	0,030
03.05.	47°34'N 46°53'W	850	<i>Anthoptilum spp.</i>	8	0,160
03.05.	47°34'N 46°53'W	890	<i>Stauropathes arctica</i>	1	0,050
03.05.	47°34'N 46°53'W	975	<i>Duva florida</i>	3	0,060
04.05.	48°08'N 47°37'W	1050	<i>Anthoptilum spp.</i>	14	0,070
04.05.	48°08'N 47°37'W	1050	<i>Stauropathes arctica</i>	3	0,110
08.05.	46°46'N 46°39'W	1090	<i>Anthoptilum spp.</i>	44	0,280
08.05.	46°46'N 46°39'W	970	<i>Stauropathes arctica</i>	1	0,030
12.05.	46°31'N 46°32'W	930	<i>Radicipes gracilis</i>	1	0,010
13.05.	47°15'N 46°34'W	1050	<i>Pennatula borealis</i>	1	0,020
15.05.	46°23'N 46°41'W	1030	<i>Anthoptilum spp.</i>	3	0,030
15.05.	46°23'N 46°41'W	950	<i>Stauropathes arctica</i>	1	0,060
18.05.	45°48'N 47°48'W	900	<i>Anthoptilum spp.</i>	11	0,070
18.05.	45°48'N 47°48'W	800	<i>Stauropathes arctica</i>	1	0,040
29.05.	48°06'N 47°10'W	830	<i>Anthoptilum spp.</i>	33	0,270
29.05.	48°06'N 47°10'W	870	<i>Stauropathes arctica</i>	1	0,020
29.05.	48°06'N 47°10'W	900	<i>Duva florida</i>	4	0,040
30.05.	47°41'N 46°55'W	830	<i>Stauropathes arctica</i>	2	0,080
14.06.	48°07'N 47°09'W	810	<i>Anthoptilum spp.</i>	3	0,045
15.06.	48°07'N 47°09'W	800	<i>Duva florida</i>	1	0,020
16.06.	48°07'N 47°09'W	820	<i>Anthoptilum spp.</i>	36	0,150
17.06.	48°07'N 47°06'W	800	<i>Stauropathes arctica</i>	1	0,050

Date	Trawling coordinates	Fishing depth, m	Species	Number	Weight (kg)
25.06.	48°07'N 47°09'W	806	<i>Anthoptilum spp.</i>	5	0,190
25.06.	48°07'N 47°09'W	770	<i>Stauropathes arctica</i>	1	0,020
19.07.	48°07'N 47°09'W	850	<i>Anthoptilum spp.</i>	NA	0,250
20.07.	47°56'N 46°42'W	900	<i>Anthoptilum spp.</i>	NA	0,300
20.07.	47°56'N 46°42'W	900	<i>Pennatula spp.</i>	NA	0,050
24.07.	47°15'N 46°34'W	1000	<i>Anthoptilum spp.</i>	NA	0,500
24.07.	47°15'N 46°34'W	1000	<i>Duva spp.</i>	NA	0,150
25.07.	46°48'N 46°31'W	1000	<i>Anthoptilum spp.</i>	NA	0,450
25.07.	46°48'N 46°31'W	1000	<i>Duva spp.</i>	NA	0,050
07.08.	47°15'N 46°34'W	1000	<i>Anthoptilum spp.</i>	NA	0,700
07.08.	47°15'N 46°34'W	1000	<i>Pennatula spp.</i>	NA	0,100
07.08.	47°15'N 46°34'W	1000	<i>Stauropathes spp.</i>	NA	0,200
12.08.	48°09'N 47°09'W	1050	<i>Anthoptilum spp.</i>	NA	0,300
18.08.	47°55'N 46°42'W	1050	<i>Anthoptilum spp.</i>	NA	0,500
19.08.	47°37'N 46°56'W	950	<i>Anthoptilum spp.</i>	NA	0,600
28.08.	47°26'N 47°05'W	850	<i>Anthoptilum spp.</i>	NA	0,400
28.08.	47°26'N 47°05'W	850	<i>Pennatula spp.</i>	NA	0,050
30.08.	48°08'N 47°35'W	950	<i>Anthoptilum spp.</i>	NA	0,500
01.09.	48°08'N 47°36'W	800	<i>Anthoptilum spp.</i>	NA	1,500
02.09.	48°08'N 47°35'W	875	<i>Anthoptilum spp.</i>	NA	1,100
03.09.	48°07'N 47°09'W	840	<i>Anthoptilum spp.</i>	NA	0,300
04.09.	47°40'N 46°53'W	950	<i>Anthoptilum spp.</i>	NA	2,500
04.09.	47°40'N 46°53'W	950	<i>Pennatula spp.</i>	NA	0,300
04.09.	47°40'N 46°53'W	950	<i>Halopteris finmarchica</i>	NA	0,200
05.09.	46°27'N 46°39'W	1000	<i>Anthoptilum spp.</i>	NA	1,500
15.09.	46°45'N 47°18'W	320	<i>Anthoptilum spp.</i>	NA	0,320

Table 31. Occurrence of marine mammals in the NAFO Regulatory Area in 2011.

Date	Coordinates N-W	Reported species	Quantity	Remarks
28-30.04	46°21'- 47°06' c.ш. 46°37'- 47°11' з.д.	Bottle-nosed dolphin	1	Observed when hauling the trawl
01.05-03.05	47°34'- 47°54' c.ш. 46°40'- 47°01' з.д.	Sperm whale	1	Observed when hauling the trawl
		Bottle-nosed dolphin	1	
04.05-06.05	48°04'- 48°10' c.ш. 46°40'- 47°36' з.д.	Sperm whale	2	Observed when hauling the trawl
		Bottle-nosed dolphin	2	
07-17.05	46°23'- 47°20' c.ш. 46°32'- 47°16' з.д. 47°48'- 48°28' з.д.	Sperm whale	1	Observed when hauling the trawl
		Bottle-nosed dolphin	1	
28.05-29.05	48°06'- 48°10' c.ш. 47°10'- 47°40' з.д.	Sperm whale	2	Observed when hauling the trawl
		Bottle-nosed dolphin	1	
30.05-12.06	46°22'- 47°54' c.ш. 46°35'- 47°22' з.д.	Sperm whale	1	Observed when hauling
		Bottle-nosed dolphin	1	
6.06	46°33' c.ш. - 47°19' з.д.	Dolphin	5	Moved northward
30.05-12.06	46°22'- 47°54' c.ш. 46°35'- 47°22' з.д.	Sperm whale	1	Observed when hauling the trawl
		Bottle-nosed dolphin	1	
13.06-18.06	48°06'- 48°10' c.ш. 47°07'- 47°38' з.д.	Sperm whale	3	Observed when hauling the trawl
		Bottle-nosed dolphin	2	
19.06-25.06	46°58'- 47°56' c.ш. 46°34'- 47°28' з.д.	Bottle-nosed dolphin	1-2	Observed when hauling the trawl
26.06-30.06	48°06'- 48°07' c.ш. 47°09'- 47°37' з.д.	Sperm whale	1	Observed when hauling the trawl
		Bottle-nosed dolphin	2-4	
07.07- 05.09	45°25'- 48°10' c.ш. 46°29'- 48°28' з.д.	Sperm whale	2-6	Observed when hauling the trawl
		Pilot whale	15-30	
1.09	47°36' з.д. -			Grazed near the drifting vessel
7.09	46°27'1 c.ш. 46°08'6 з.д.	White-sided dolphin	2-6	Followed along the course of the vessel
		Sperm whale		
13.09	47°29'6 c.ш. - 47°15'7 з.д.	Sperm whale	1	Moved southeastward
13.09	47°31'4 c.ш. - 47°15'0 з.д.	Sperm whale	1	Moved southeastward