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by

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

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

In the area to the north of 68°N five trawlers were engaged in fishery. The trawlers fished within an area between 68°05'N–71°21'N and 60°59'W–58°56'W at the depths of 760–1,150 m. According to the preliminary data, the catch of Greenland halibut was 549.9 t. There was a by-catch of 3.0 t of skates, 0.1 t of northern wolffish and 0.1 t of roughhead grenadier (Table 2). The catch rate varied by months from 9.0 t to 12.6 t and averaged 10.4 t per fishing vessel day.

In the area south of 68°N, six Russian trawlers participated in the fishery. The trawlers operated from July to December in the area between 63°29'N–64°29'N and 57°58'W–54°59'W, at depths of 917–1,490 m. The catch rate per fishing vessel day ranged from 4.6 t to 18.2 t and averaged 11.7 t. According to the preliminary data, the catch of Greenland halibut was 1,223.9 t. The by-catch was comprised of 1.0 t of northern wolffish, 2.0 t of roundnose grenadier and 2.0 t of roughhead grenadier (Table 2).

In general, the annual catch of Greenland halibut taken by the Russian fleet off West Greenland amounted to 1,773.8 t (Table 1). Skates, northern wolffish and grenadiers occurred in the by-catch (Table 2).

Other fish species

There was no directed fishery for other fish species.

B. Dedicated Research Studies

Biological data on Greenland halibut from Div. 1A were collected by observers aboard Russian fishing vessels.

Greenland halibut

In Div. 1A, the length of Greenland halibut in catches ranged from 31 cm to 71 cm, specimens as long as 46 – 50 cm prevailed (Table 3). In Div. 1D, no halibut samples were collected.

SUBAREA 3**A. Status of Fisheries***Greenland halibut*

Four trawlers were engaged in the directed fishery for Greenland halibut from February to November. The trawlers were fishing in the areas on the continental slope adjacent to the deep-water Flemish Pass (Div. 3L) between 44°05'N – 48°53'N at 690 – 1,500 m depths. Occasionally, the trawlers also fished in Divs. 3M and 3N

at 700 - 1,300 m depths. In general, the catch rate per fishing vessel day in the area ranged from 1.0 t to 18.8 t and averaged 9.2 t per fishing vessel day and 0.54 t per hour of hauling.

In general, the annual catch of Greenland halibut taken in the directed fishery amounted to 1,429.7 t. In addition, 26.2 t of Greenland halibut were taken as by-catch in the multispecies fishery. According to the preliminary data, the total catch of Greenland halibut was 1,455.9 t under the Russian quota of 1,460.0 t (Table 1). The by-catch was comprised of Atlantic halibut, roughhead and roundnose grenadiers, redfishes, American plaice, witch flounder, skates as well as northern wolffish and cod (Table 4).

Cod

On the Flemish Cap Bank, the directed fishery for cod was conducted between 46°24' N – 48°07'N and 46°29'W – 44°09'W at depths of 130 – 480 m, where the average daily catch rate was 25.5 t, in February-November. The annual catch of cod taken by Russian fishing vessels in the directed fishery was 837.1 t, with a by-catch of 39.6 t of redfishes, 3.4 t of witch flounder, 13.1 t of American plaice, 1.3 t of skates, 2.3 t of spotted wolffish, 0.2 t of Atlantic wolffish and 3.9 t of Atlantic halibut. Furthermore, 111.5 t of cod were taken as a by-catch in the redfish fishery. The total Russian catch of cod on the Flemish Cap was 950.0 t (Table 1).

Atlantic redfishes on the Flemish Cap

The redfish fishery was conducted from between 46°25'N - 48°19'N and 46°16'W - 44°20'W at depths of 230 – 580 m in February-March and July. The vessels fished with bottom trawls and the catch rate varied from 20.9 to 30.4 t and averaged 28.2 t per a fishing vessel day.

In total, the annual catch taken by Russian fishing vessels in the directed redfish fishery, according to the preliminary data, was 1,302.4 t. Atlantic halibut, cod, spotted wolffish, witch flounder, American plaice, and skates occurred in the by-catch (Table 5).

In the cod fishery, 39.6 t of redfishes were taken as a by-catch. In the area, the total Russian catch of redfishes was 1342.0 t (Table 1).

In Div. 30, Russian trawlers sporadically fished in the south-western Grand Bank of Newfoundland from January to October, during 50 days in total. Bottom trawls were used in the fishery, which was conducted in the area between 43°05'N – 43°26'N and 51°44'W – 51°01'W at the depths of 90–540 m.

The highest catch rates in bottom trawling were recorded in April and October, when the catch rates were 4.1 t and 3.7 t per hour of hauling respectively.

In total, in 2014, Russian fishing vessels caught 1,254.7 t of redfishes in the directed fisheries. Cod, American plaice, witch flounder, white hake, skates, haddock, hake, as well as Atlantic halibut occurred in the by-catch (Table 5). Also, the redfish by-catch was recorded in the multispecies fishery (15.9 t). In Div.30, the total Russian catch of redfishes amounted to 1,270.7 t (Table 1).

In Div. 3LN, the fishery was conducted from January to November between 42°49'N – 48°09'N and 51°00'W – 46°31'W at depths of 100 – 750 m. The catch rates in bottom trawling ranged from 2.0 t to 38.0 t and averaged 21.0 t per fishing vessel day. In total, during 2014, 1982.6 t of redfishes were taken in the directed fishery by Russian vessels. Cod, witch flounder, American plaice, Atlantic halibut, skates, yellowtail flounder, roundnose grenadier, hake and northern wolffish were found in the by-catch (Table 5). Redfishes, 48.0 t and 31.4 t, were also taken as a by-catch in the Greenland halibut and multispecies fisheries, respectively.

In Div.3LN, the total Russian catch of redfishes amounted to 2062.0 t (Table 1).

Yellowtail flounder (Limanda ferruginea)

The Russian directed fishery for yellowtail flounder was conducted during a short period of time in January between 43°01'N – 44°02'N and 50°06'W – 49°20'W, where the average daily catch rate was 14.0 t. Also, in December, there was one hauling at 44°40'N and 49°06'W, where 10.1 t of the flounder were caught. In 2014,

Russian fishing vessels caught 84.5 t of yellowtail flounder in the directed fishery (Table 1). The by-catch consisted of 4.4 t of witch flounder, 4.5 t of American plaice, 3.5 t of cod, 1.4 t of skates and 0.6 t of Atlantic halibut. Besides, 0.4 t were taken in each of the skate and redfish fisheries.

Other fish species

There was no directed fishery for other species. The by-catch of other fish species in the directed fisheries amounted to 39.2 t of hake and 0.5 t of haddock. Also, black dogfish, marlin-spine grenadier and blue hake were found in by-catch as single fish.

B. Dedicated Research Studies

No surveys to assess the stocks of target species were carried out. Biological data were collected by NAFO observers on fishing vessels.

Greenland halibut (Reinhardtius hippoglossoides)

In Div. 3L, Greenland halibut from 30 cm to 90 cm in length occurred, with a mean length of 50.7 cm. Individuals as long as 48 – 54 cm prevailed (Table 6).

In Div. 3M, the length of Greenland halibut varied from 32 cm to 68 cm, predominately it was 48-54 cm. The average length was 49.4 cm.

In Div. 3N, Greenland halibut length was equal to 36-88 cm with a mean length of 54.2 cm. The specimens 48-54 cm in length predominated.

In general, the length of Greenland halibut in Div. 3LMNO was 30-90 cm, with a mean length of 50.8 cm.

By age, the Greenland halibut from Divs. 3LN varied between 4-19 years (Table 7).

Acadian redfish (Sebastes fasciatus)

In Div. 3N, the catches consisted of fish as long as 18-33 cm with the average length of females and males being equal to 23.9 cm and 22.4 cm, respectively (Table 8). Individuals having a length of 21-23 cm made up the bulk of the catches.

Deep-sea redfish (Sebastes mentella)

In Div. 3L, the length of deep-sea redfish varied from 18 to 44 cm, being mainly 30-33 cm. The mean length was 31.1 cm (Table 9).

In Div. 3M, single fish as long as 26-44 cm were caught. The average length was 34.7 cm.

In Div. 3N, redfish as long as 18-35 cm were caught. Individuals from 21 cm to 24 cm in length made up the bulk of the catch. The average length of males was 22.8 cm, of females – 24.8 cm.

In Div. 3O, redfish with length of 18-27 cm, primarily, 21-22 cm, were often found. Males had the length of 21.3 cm, females – 21.9 cm.

Golden redfish (Sebastes marinus)

In Div. 3M, length of golden redfish ranged from 23 cm to 56 cm and averaged 36.4 cm (Table 10).

In Div. 3L, single fish with 47-64 cm length and the average one of 54.6 cm were caught.

Roughhead grenadier (Macrourus berglax)

In Div. 3L, the total length of roughhead grenadier in the catches varied from 27 cm to 84 cm, being mainly 45-51 cm. The mean length was 51.0 cm (Table 11).

In Div. 3M, the length varied from 57 cm to 72 cm and, primarily, from 60 to 69 cm, with a mean one of 64.7 cm.

Roundnose grenadier (Coryphaenoides rupestris)

In Div. 3L, single individuals were captured, the length ranged from 33 cm to 51 cm with the mean of 45.8 cm (Table 12).

American plaice (Hippoglossoides platessoides)

In Div. 3L, American plaice as long as 26-56 cm were caught. The mean length was 39.2 cm (Table 13).

In Div. 3M, the length of American plaice varied from 36 to 56 cm with 46.3 cm on the average.

In Div. 3N, the length of American plaice ranged from 24 cm to 66 cm, being 40.4 cm on the average.

In Div. 3O, in the catches, the fish 30-64 cm were found. The average length was equal to 45.7 cm.

Witch flounder (Glyptocephalus cynoglossus)

In Div. 3L, witch flounder ranging from 32 cm to 48 cm in length were taken as a by-catch in the redfish fishery. The mean length of witch flounder was 38.7 cm (Table 14).

In Divs. 3M and 3N, witch flounder length varied within 34-54 cm and 38-60 cm with the means of 46.1 cm and 50.1 cm, respectively.

In Div. 3O, the length of witch flounder ranged from 30 cm to 40 cm. The mean length was 36.7 cm. Witch flounder were caught as single fish.

Cod (Gadus morhua)

In Div.3L, the length was 32-86 cm. The average one equaled to 53.8 cm (Table 15).

On the Flemish Cap Bank, the length of cod varied from 30 cm to 124 cm and the mean length was 66.8 cm. Cod as long as 52-58 cm made up the bulk of the catches.

In Div. 3N, cod length varied from 34 cm to 120 cm with the prevalence of fish 54-64 cm in length, the average length was 63.5 cm.

In Div. 3O, 14 individuals of cod, being as long as 50-70 cm and having the mean length of 61.2 cm were captured.

Thorny skate (Amblyraja radiata)

In Div. 3L, thorny skates ranging from 58 cm to 69 cm in length occurred in the catches of redfishes (Table 16). The mean length was 61.3 cm.

White hake (Urophycis tenuis)

Small numbers of white hake were found in by-catches. In Divs. 3N and 3O, the fish length varied from 35 cm to 45 cm and from 37 cm to 41 cm with the means of 59.2 cm and 49.8 cm, respectively (Table 17).

Black dogfish (Centroscyllium fabricii)

The length varied from 54 cm to 69 cm, with the mean male length of 63.7 cm and mean female length of 61.3 cm (Table 18).

Northern wolffish (Anarhichas denticulatus)

In Div. 3L, the length of northern wolffish varied from 39 cm to 120 cm, the mean length was 71.9 cm (Table 19). Northern wolffish as long as 60-69 cm made up the bulk of the catches.

In Div. 3M, single northern wolffish as long as 51-78 cm, being 63.3 cm, on the average, were taken in the by-catches.

Atlantic wolffish (Anarhichas lupus)

In Div. 3M, Atlantic wolffish were captured as single fish. The length varied from 57 cm to 114 cm, being 85.1 cm, on the average (Table 20).

Spotted wolffish (Anarhichas minor)

Single spotted wolffish were captured in Div. 3M. The length ranged from 57 cm to 114 cm, being 85.1 cm, on the average (Table 21).

Blue hake (Antimora rostrata)

In Div. 3L, blue hakes were as long as 27-42 cm in length, being 37.4 on the average (Table 22). Individuals as long as 36-42 cm made up the bulk of the catches.

Marlin-spine grenadier (Nezumia bairdii)

In Div. 3L, the total length of marlin-spine grenadier varied from 27 to 36 cm being 32.2 cm, on the average (Table 23).

Atlantic halibut (Hippoglossus hippoglossus)

In Divs. 3LMN, Atlantic halibut were captured as single individuals. The length ranged from 62 cm to 190 cm. The mean length was 96.95 cm (Table 24).

VME indicator species

The information on the catches of cold-water corals was presented in a working document for the meeting of ICES/NAFO Joint Working Group on Deep-water Ecology (WGDEC) in February 2015 (Vinnichenko, Kanishchev, 2015).

Marine mammals

By the observations aboard fishing vessels, white-beaked dolphins, pilot whales, fin whales, humpback whales, bottlenose dolphins, minke whales, sperm whales, harp and hooded seals were observed in Divs. 3LMN in March-August (Table 25). In all, there were 57 cases of observations (Table 26).

No discards during fisheries for main fish species were reported.

References

Vinnichenko V. and A. Kanishchev. Russian catches of cold-water corals and sponges in the North Atlantic based on the data of observations aboard fishing vessels in 2014. Working Document for ICES/NAFO WGDEC 2015. 9 pp.

Table 1. Preliminary catches taken by Russian trawlers in NAFO SA 1-3 in 2014.

Species	Division	Catch, t
Greenland halibut	1A	549,9
	1B	0,0
	1C	216,3
	1D	1007,5
	1ABCD	1773,7
Greenland halibut	3L	1294,8
	3M	115,7
	3N	45,4
	3O	0,0
	3LMNO	1455,9
American plaice	3L	25,9
	3M	23,1
	3N	22,1
	3O	47,7
	3LMNO	118,8
Yellowtail flounder	3N	85,3
	3O	0,0
	3NO	85,3
Witch flounder	3L	8,2
	3M	26,0
	3N	17,9
	3O	38,9
	3LMNO	91,0
Roughhead grenadier	3L	11,5
	3M	1,3
	3N	0,8
	3LMN	13,6
Roughnose grenadier	3L	12,0
	3M	7,4
	3N	0,2
	3LMN	19,5
Redfish spp.	3L	1138,0
	3M	1342
	3N	924,0
	3O	1270,7
	3LMNO	4674,7
Skate	3L	15,7
	3M	13,6
	3N	40,8
	3O	103,5
	3LMNO	173,5
Atlantic cod	3L	47,3
	3M	950,0
	3N	61,7
	3O	41,8
	3MNO	1100,8
Wolffish spp.	3L	8,8
	3M	2,9
	3N	0,4
	3LMN	12,0

Table 2. Bycatch at directed Greenland halibut fishery by Russian bottom trawlers from NAFO Divs. 1ACD in 2014.

Species	Weight, t
Div. 1A	
Roundnose grenadier	0,147
Northern wolffish	0,080
Skates	3,000
Div. 1C	
Roughhead grenadier	1,000
Northern wolffish	1,000
Div. 1D	
Roughhead grenadier	1,000
Roundnose grenadier	2,000
Total	
Roughhead grenadier	2,000
Roundnose grenadier	2,147
Northern wolffish	1,080
Skates	3,000

Table 3. Greenland halibut (*Reinhardtius hippoglossoides*) length composition (ind.) of the Russian trawl catches in NAFO Div. 1A in 2014.

Length, cm	1A
31	1
32	0
33	0
34	0
35	4
36	5
37	10
38	9
39	18
40	32
41	17
42	43
43	46
44	31
45	52
46	64
47	58
48	65
49	41
50	89
51	44
52	29
53	19
54	13
55	14
56	5
57	12
58	2
59	1
60	10
61	3
62	1
63	0
64	5
65	0
66	1
67	0
68	0
69	0
70	2
71	2
Total	748
Mean length, cm	47.3

Table 4. Bycatch at directed Greenland halibut fishery by Russian bottom trawlers from NAFO Divs. 3LMNO in 2014.

Species	Weight, t
Witch flounder	4,816
Redfishes	38,368
Skates	12,176
Roundnose grenadier	19,063
Roughhead grenadier	12,598
American plaice	1,516
Cod	0,648
Atlantic halibut	1,129
Northern wolffish	6,718
Spotted wolffish	0,040

Table 5. Bycatch at directed redfish fishery by Russian bottom trawlers from NAFO Divs. 3LMNO in 2014.

Species	Weight, t
Divs.3LN	
Yellowtail flounder	0,380
Witch flounder	17,061
Skate spp.	23,414
Roughhead grenadier	0,534
White hake	0,280
Hake	1,540
Plaice	0,020
American plaice	38,551
Cod	70,517
Atlantic halibut	24,997
Greenland halibut	12,285
Northern wolffish	0,880
Spotted wolffish	0,080
Atlantic wolffish	0,640
Div. 3M	
Yellowtail flounder	
Witch flounder	2,393
Skate spp.	4,082
American plaice	4,704
Cod	111,461
Atlantic halibut	2,975
Spotted wolffish	0,413
Div. 3O	
Yellowtail flounder	
Witch flounder	35,074
Skate spp.	21,510
	0,050
White hake	19,511
Haddock	0,385
Hake	22,480
American plaice	43,169
Cod	37,726
Atlantic halibut	5,943
Total	
Yellowtail flounder	0,380
Witch flounder	54,528
Skate spp.	49,006
Roughhead grenadier	0,534
Silver rockling	0,050
White hake	19,791
Haddock	0,385
Hake	24,020
Plaice	0,020
American plaice	86,424
Cod	219,704
Atlantic halibut	33,915
Greenland halibut	12,285
Northern wolffish	0,880
Spotted wolffish	0,493
Atlantic wolffish	0,640

Table 6. Greenland halibut (*Reinhardtius hippoglossoides*) length composition (ind.) of the Russian trawl catches in NAFO Divs. 3LMN in 2014.

Length, cm	3L			3M			3N			3LMN		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
30		2	2								2	2
32	4	27	31		1	1				4	28	32
34	15	78	93	2	4	6				17	82	99
36	61	137	198	5	6	11	1		1	67	143	210
38	152	250	402	4	8	12	1	3	4	157	261	418
40	323	483	806	10	7	17	11	5	16	344	495	839
42	530	607	1137	8	7	15	11	7	18	549	621	1170
44	715	823	1538	12	14	26	32	14	46	759	851	1610
46	959	1097	2056	9	24	33	22	24	46	990	1145	2135
48	1440	1467	2907	16	31	47	66	18	84	1522	1516	3038
50	1868	1521	3389	25	21	46	46	12	58	1939	1554	3493
52	2442	954	3396	37	15	52	54	2	56	2533	971	3504
54	2476	558	3034	36	10	46	63	2	65	2575	570	3145
56	1605	146	1751	19	3	22	53		53	1677	149	1826
58	871	50	921	12		12	39	2	41	922	52	974
60	521	14	535	5		5	28	1	29	554	15	569
62	272	5	277	3		3	17		17	292	5	297
64	176	3	179	2		2	22		22	200	3	203
66	122		122	2		2	13	1	14	137	1	138
68	101	1	102	1		1	16		16	118	1	119
70	48		48				13		13	61		61
72	25		25				6		6	31		31
74	17		17				7		7	24		24
76	15		15				6		6	21		21
78	13		13				4		4	17		17
80	13		13				1		1	14		14
82	3		3							3		3
84	7		7				3		3	10		10
86	3		3							3		3
88							1		1	1		1
90	1		1							1		1
Total	14798	8223	23021	208	151	359	536	91	627	15542	8465	24007
Mean length, cm	52.4	47.7	50.7	51.2	46.9	49.4	55.4	47.2	54.2	52.5	47.7	50.8

Table 7. Length-age distribution of Greenland halibut (*Reinhardtius hippoglossoides*) from Divisions 3LN in 2014.

Length	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	NN	Weight, g
32	1																1	260
33	1	1															2	310
34	2																2	325
35		1															1	330
36	1	1	4														6	402
37		2	2														4	390
38		3	6														9	468
39		1	3	1													5	480
40		3	7	3													13	524
41		2	15	4													21	562
42			12	5													17	609
43			8	9	1												18	661
44			8	14	4												26	738
45			4	7	6												17	781
46			1	9	8												18	807
47				19	5	1											25	882
48				9	21	2											32	953
49				8	18	1											27	1050
50				2	21	5											28	1092
51				1	22	4	1										28	1197
52					17	9	2										28	1257
53					13	15	1										29	1319
54					4	19	2										25	1424
55					3	14	6										23	1442
56						18	5	1									24	1699
57						13	3	3									19	1607
58						9	6	9									24	1776
59						3	10	1									14	1809
60							11	8	1								20	2187
61						1	6	5	3								15	2342
62							3	2	3								8	2139
63							1	6	8	1							16	2326
64								3	4	1							8	2645
65								4	4	4							12	2812
66								1	7	2	1						11	2693
67									2	2							4	2845
68									7	7	2						16	3061
69									3	2							5	3290
70									4	5	5						14	3863
71										3	1						4	6200
72										3	5	1					9	4748
73										1	4						5	3798
74										2							2	3775
75											3	1					4	5703
76											1	4					5	7296
77											2	2					4	6233
78											2	3	2				7	5963
79											1		1				2	5135
80												3	2	1			6	5522
81																	0	0
82													1				1	5815

83																		0	0
84													2	1				3	6660
85													1	1				2	6745
86																	1	1	15550
87																			0
88																1		1	6700
89																			0
90																	1	1	8600
Total	5	14	70	91	143	114	57	43	46	33	27	14	9	3	1	2			672
Mean weight, g	320	462	587	804	1092	1473	1765	2295	2713	3404	4773	6767	5780	6506	6700	2075			672 1799
Mean length, cm	33.9	38.2	41.3	45.5	49.8	54.6	58.1	60.8	65.5	68.8	72.9	77.1	81.2	83.0	88.0	88.0			672 544.5

Table 8. Length composition (ind.) of *S. fasciatus* in Russian trawl catches in NAFO Div. 3N in 2014.

Length, cm	3N		
	Females	Males	Total
18	2	2	4
19	3	3	6
20	20	21	41
21	43	55	98
22	52	37	89
23	45	20	65
24	32	21	53
25	17	19	36
26	17	11	28
27	8	2	10
28	10	1	11
29	12		12
30	11		11
31	6	1	7
32	6		6
33	2		2
Total	286	193	479
Mean length, cm	23.9	22.4	23.3

Table 9. Length composition (ind.) of *S. mentella* in Russian trawl catches in NAFO Divs. 3LMNO in 2014.

Length, cm	3L			3M			3N			3O			Total		
	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total	Females	Males	Total
18	1		1			0		1	1	1	2	3	2	3	5
19			0			0	5	14	19	5	10	15	10	24	34
20	1	1	2			0	32	67	99	14	39	53	47	107	154
21	4	15	19			0	113	231	344	69	61	130	186	307	493
22	15	45	60			0	161	268	429	67	33	100	243	346	589
23	36	56	92			0	212	172	384	45	27	72	293	255	548
24	85	59	144			0	171	164	335	10	6	16	266	229	495
25	84	84	168			0	161	100	261	9	10	19	254	194	448
26	95	125	220		1	1	99	69	168	3	2	5	197	197	394
27	114	133	247		1	1	116	29	145	1	1	2	231	164	395
28	193	144	337		2	2	81	13	94			0	274	159	433
29	227	142	369	1	1	2	67	4	71			0	295	147	442
30	360	212	572	5	5	10	43	1	44			0	408	218	626
31	344	204	548	7	6	13	32		32			0	383	210	593
32	363	194	557	6	8	14	18		18			0	387	202	589
33	329	195	524	14	10	24	14		14			0	357	205	562
34	272	189	461	15	10	25	4		4			0	291	199	490
35	269	134	403	16	8	24	3		3			0	288	142	430
36	203	114	317	13	7	20			0			0	216	121	337
37	120	60	180	8	6	14			0			0	128	66	194
38	112	47	159	5	6	11			0			0	117	53	170
39	68	15	83	5	3	8			0			0	73	18	91
40	40	6	46	4	2	6			0			0	44	8	52
41	18	1	19	4	2	6			0			0	22	3	25
42	11		11	2		2			0			0	13		13
43	4		4	1		1			0			0	5		5
44	2		2	1		1			0			0	3		3
Total	3370	2175	5545	107	78	185	1332	1133	2465	224	191	415	5033	3577	8610
Mean length, cm	31.8	30.6	31.3	35.2	34.1	34.7	24.9	22.8	23.9	22.0	21.5	21.8	29.6	27.7	28.8

Table 10. Length composition (ind.) of *S. marinus* in Russian trawl catches in NAFO Divs. 3LM in 2014.

Length, cm	3L			3M			3LM		
	Females	Males	Total	Females	Males	Total	Females	Males	Total
23					2	2		2	2
24				1	1	2	1	1	2
25				6	4	10	6	4	10
26				5	6	11	5	6	11
27				6	6	12	6	6	12
28				6	7	13	6	7	13
29				15	9	24	15	9	24
30				21	27	48	21	27	48
31				19	19	38	19	19	38
32				33	21	54	33	21	54
33				30	20	50	30	20	50
34				29	42	71	29	42	71
35				23	49	72	23	49	72
36				31	51	82	31	51	82
37				47	38	85	47	38	85
38				61	24	85	61	24	85
39				37	15	52	37	15	52
40				64	7	71	64	7	71
41				53	4	57	53	4	57
42				56	3	59	56	3	59
43				35	1	36	35	1	36
44				27		27	27		27
45				21	1	22	21	1	22
46				2		2	2		2
47	1		1	2		2	3		3
48	1		1	3		3	4		4
49		2	2	1		1	1	2	3
50		1	1	1		1	1	1	2
51									
52									
53									
54	2	1	3				2	1	3
55				1		1	1		1
56	2		2	1		1	3		3
57									
58									
59									
60	2		2				2		2
61									
62									
63	1		1				1		1
64		1	1					1	1
Total	9	5	14	637	357	994	646	362	1008
Mean length, cm	55.3	53.2	54.6	37.7	34.2	36.4	37.9	34.5	36.7

Table 11. Roughhead grenadier (*Macrourus berglax*) length composition (ind.) of the Russian trawl catches in NAFO Divs. 3LM in 2014.

Length, cm	3L	3M	3LM
27	1	0	1
30	1	0	1
33	14	0	14
36	35	0	35
39	104	0	104
42	107	0	107
45	270	0	270
48	226	0	226
51	305	0	305
54	134	0	134
57	116	1	117
60	91	4	95
63	51	0	51
66	17	1	18
69	19	2	21
72	27	1	28
75	5	0	5
78			
81	1	0	1
84	1	0	1
Total	1525	9	1534
Mean length, cm	51.0	64.7	51.1

Table 12. Roundnose grenadier (*Coryphaenoides rupestris*) length composition (ind.) of the Russian trawl catches in NAFO Div. 3L in 2014.

Length, cm	3L
33	1
35	
37	
39	
41	
43	1
45	1
47	3
49	2
51	1
Total	9
Mean length, cm	45.8

Table 13. Length composition (ind.) of American plaice (*Hippoglossoides platessoides*) in Russian trawl catches in NAFO Divs. 3LMNO in 2014.

Length, cm	3L	3M	3N	3O	3LMNO
24			2		2
26	1		1		2
28	1		9		10
30	13		14	1	28
32	15		21	2	38
34	27		17	4	48
36	67	1	35	1	104
38	119	2	26	2	149
40	101	3	25	4	133
42	57	10	17		84
44	28	2	14		44
46	6	2	10		18
48	4	3	5		12
50	1	2	10	1	14
52	2	4	6	2	14
54	1	3	5	3	12
56	1	2	4	1	8
58			3	2	5
60			1	2	3
62			2		2
64			3	1	4
66			2		2
Total	444	34	232	26	736
Mean length, cm	39.2	46.3	40.4	45.7	40.1

Table 14. Length composition (ind.) of Witch flounder (*Glyptocephalus cynoglossus*) in Russian trawl catches in NAFO Divs. 3LMNO in 2014.

Length, cm	3L	3M	3N	3O	3LMNO
30				1	1
32	8			1	9
34	25	2		1	28
36	17	3			20
38	16		1	5	22
40	12			1	13
42	11	5	2		18
44	12	2	5		19
46	2	5	2		9
48	5	6	7		18
50		2	4		6
52		6	5		11
54		1	3		4
56			3		3
58			2		2
60			1		1
Total	108	32	35	9	184
Mean length, cm	38.7	46.1	50.1	36.7	42.1

Table 15. Length composition (ind.) of Atlantic cod (*Gadus morhua*) in Russian trawl catches in NAFO Div. 3LMNO in 2014.

Length, cm	3L	3M	3N	3O	3LMNO
30		1			1
32	1	5			6
34	2	6	1		9
36	5	4	1		10
38	2	3	1		6
40	4	7	1		12
42	5	24	5		34
44	5	67	21		93
46	12	87	41		140
48	10	144	46		200
50	6	158	58	1	223
52	9	213	84	1	307
54	5	229	113	3	350
56	8	164	93		265
58	6	176	104		286
60	4	129	102	2	237
62	6	128	87	2	223
64	3	129	100	1	233
66	2	87	69		158
68	3	95	81	1	180
70	1	80	64	3	148
72	1	80	57		138
74	2	78	36		116
76	1	62	34		97
78	1	62	42		105
80	1	66	18		85
82	2	50	35		87
84	1	45	26		72
86	1	37	12		50
88		31	2		33
90		35	3		38
92		49	8		57
94		40	1		41
96		37	2		39
98		26	3		29
100		37	3		40
102		32			32
104		30	4		34
106		25	1		26
108		29	1		30
110		17	3		20
112		16			16
114		14	2		16
116		3	2		5
118		5			5
120		4	1		5
122		2			2
124		1			1
Total	109	2849	1368	14	4340
Mean length, cm	53.8	66.8	63.5	61.2	65.4

Table 16. Length composition (ind.) of Thorny skate (*Amblyraja radiata*) in Russian trawl catches in NAFO Div. 3L in 2014.

Length, cm	3L		
	Females	Males	Total
58	3		3
59			
60	1		1
61	4		4
62			
63	1		1
64		1	1
65			
66			
67			
68			
69	1		1
Total	10	1	11
Mean length, cm	61.0	64.0	61.3

Table 17. Length composition (ind.) of White hake (*Urophycis tenuis*) in Russian trawl catches in NAFO Div. 3NO in 2014.

Length, cm	3N	3O	3NO
35	1		1
36			
37		3	3
38	3	5	8
39	2	1	3
40	1	1	2
41	1	1	2
42	2		2
43	2		2
44	1		1
45	3		3
46			
Total	17	11	28
Mean length, cm	59,2	49,8	55,5

Table 18. Length composition (ind.) of Black dogfish (*Centroscyllium fabricii*) in Russian trawl catches in NAFO Div. 3LMN in 2014.

Length, cm	3L		
	Females	Males	Total
54	2	1	3
57			
60	10	5	15
63	1		1
66	1	1	2
69	2	3	5
Total	16	10	26
Mean length, cm	61.9	63.7	62.6

Table 19. Length composition (ind.) of Northern wolffish (*Anarhichas denticulatus*) in Russian trawl catches in NAFO Div. 3LM in 2014.

Length, cm	3L	3M	3LM
39	1		1
42			
45			
48	4		4
51	14	1	15
54	4		4
57	12		12
60	31	2	33
63	12		12
66	6		6
69	60		60
72	1		1
75	37		37
78	3	1	4
81	13		13
84	15		15
87	8		8
90	4		4
93			
96	3		3
99	1		1
102			
105	2		2
108	4		4
111	1		1
114	1		1
117			
120	2		2
Total	239	4	243
Mean length, cm	71.9	63.3	71.7

Table 20. Length composition (ind.) of Atlantic wolffish (*Anarhichas lupus*) in Russian trawl catches in NAFO Div. 3LN in 2014.

Length, cm	3L	3N	3LN
36	1		1
39		1	1
42	2		2
45	1		1
48		2	2
51	3		3
54		1	1
57	1		1
60		1	1
Total	8	5	13
Mean length, cm	47.9	50.8	49.0

Table 21. Length composition (ind.) of Spotted wolffish (*Anarhichas minor*) in Russian trawl catches in NAFO Div. 3M in 2014.

Length, cm	3M
57	1
60	
63	1
66	
69	3
72	2
75	
78	4
81	2
84	1
87	
90	2
93	1
96	
99	2
102	
105	2
108	
111	1
114	1
Total	23
Mean length, cm	85.1

Table 22. Length composition (ind.) of Blue hake (*Antimora rostrata*) in Russian trawl catches in NAFO Div. 3L in 2014.

Length, cm	3L
27	6
30	15
33	8
36	13
39	39
42	15
Total	96
Mean length, cm	37.4

Table 23. Length composition (ind.) of Nezumia (*Nezumia bairdii*) in Russian trawl catches in NAFO Div. 3L in 2014.

Length, cm	3L
27	31
30	54
33	54
36	19
Total	158
Mean length, cm	32.2

Table 24. Atlantic Halibut (*Hippoglossus hippoglossus*) length composition (ind.) of the Russian trawl catches in NAFO Divs. 3LMN in 2014.

Length, cm	3L	3M	3N	3LMN
62	1		0	1
64	1		3	4
66				
68	0		2	2
70	0		3	3
72	0		1	1
74	1		1	2
76	0	1	1	1
78	4		2	6
80	2		1	3
82	0		1	1
84	0		1	1
86	0		1	1
88				
90	2		2	4
92	0		1	1
94				
96	0		1	1
98	3		0	3
100	1		1	2
102				
104	1		0	1
106	0		1	1
108				
110	1		1	2
112				
114	3		1	4
116				
118				
120	4		2	6
122				
124	1		0	1
126				
128				
130	2		0	2
132				
134	0		1	1
144	1		0	1
174	0		1	1
190	1		0	1
Total	29	1	29	59
Mean length, cm	103.9	76.5	89.9	97.0

Table 25. Occurrence of marine mammals in the NAFO Regulatory Area in 2014.

Date	Position	Species	Number	Notes
12.03-15.03	48°10'-48°17' N/ 46°36'-47°04' W	sperm whale	3-6	trawl catch
20.03	48°08' N, 47°37' W	sperm whale	1	trawl catch
22.03	48°08' N, 47°06' W	sperm whale	6	trawl catch
23.03	48°08' N, 47°30' W	sperm whale	1	trawl catch
28.03	48°07' N, 47°13' W	sperm whale	2	trawl catch
31.03	48°06' N, 47°19' W	sperm whale	3	after vessel
01.04	48°09' N, 47°06' W	sperm whale	3	trawl catch
01.04	48°08'-48°10' N 47°11'-47°43' W	harp seal	10	on ice
04.04	48°08' N, 47°42' W	sperm whale	2	trawl catch
05.04-10.04	47°07'-48°08' N 47°07'-47°40' W	sperm whale	4-8	trawl catch
05.04-10.04	47°07'-48°08' N 47°07'-47°40' W	harp seal	1-3	trawl catch
06.04	48°09' N, 47°39' W	sperm whale	7	trawling
08.04	48°06' N, 47°38' W	sperm whale	5	trawl catch
11.04	48°08' N, 47°43' W	sperm whale	3	after vessel
15.04	48°06' N, 47°05' W	sperm whale	6	trawl catch
15.04	48°08' N, 47°37' W	sperm whale	5	trawling
17.04	48°05' N, 47°04' W	sperm whale	1	trawling
19.04	63°23' N, 3°1' W	bottlenose dolphin	1	towards the vessel - NE
19.04	63°8' N, 3°42' W	bottlenose dolphin	1	towards the vessel - NE
12.05	48°05' N, 47°06' W	sperm whale	3	trawl catch
16.05	48°08' N, 47°07' W	sperm whale	5	trawl catch
18.05	48°08' N, 47°40' W	sperm whale	2	after vessel
27.05	63°22' N, 26°8' W	pilot whale	4	towards the vessel to NE
27.05	63°21' N, 26°12' W	pilot whale	5	towards the vessel to NE
27.05	63°11' N, 26°54' W	pilot whale	5	towards the vessel to NE
27.05	62°56' N, 27°55' W	fin whale	2	female with calf to N-E (40° N)
27.05	62°47' N, 28°30' W	fin whale	1	towards the vessel to N-E (40° N)

Date	Position	Species	Number	Notes
27.05	62°46' N, 28°32' W	fin whale	1	towards the vessel to N-E (40° N)
27.05	62°57'N, 27°51'W	humpback whale	1	towards the vessel to N-E (40° N)
09.06	62°13'N, 30°52' W	fin whale	1	towards the vessel to NW
17.06	62°31' N, 30°48' W	killer whale	5	northward to Fishery Zone of Greenland
26.06	61°59' N, 31°3' W	fin whale	1	before the vessel crossing the course to N-E
22.06	62°53'N, 27°34' W	pilot whale	4	fed on mackerel
22.06	46°19' N, 47°21' W	humpback whale	1	after vessel
25.06	48°07' N, 47°37' W	sperm whale	5	trawl catch
25.06	62°55' N, 27°38' W	pilot whale	7	in front of the vessel crossing the course to NE
25.06	62°51' N, 27°51' W	pilot whale	4	in parallel to vessel, by the same course
25.06	62°50' N, 27°53' W	pilot whale	8	in parallel to vessel by the opposite course
25.06	62°50' N, 27°54' W	white-beaked dolphin	4	in front of the vessel crossing the course to NE (40° N)
02.07	62°15' N, 31°15' W	pilot whale	4	towards the vessel, feeding
07.07	61°52'N, 30°28' W	pilot whale	5	in front of the vessel, feeding
07.07	61°56' N, 30°33' W	white-beaked dolphin	3	in front of the vessel, feeding
16.07	62°20' N, 33°26' W	pilot whale	1	towards the vessel, feeding
16.07	62°19' N, 33°26' W	pilot whale	4	towards the vessel, feeding
16.07	62°14' N, 3°45' W	pilot whale	20-30	crossing the "Karacharavo" course to the Fishery Zone of Greenland, feeding

Date	Position	Species	Number	Notes
16.07	62°11' N, 33°37' W	common seal	1	towards the vessel
23.07	60°19' N, 35°21' W	pilot whale	2	feeding, small schools of mackerel
23.07	59°58' N, 35°37' W	pilot whale	12	feeding, echo sounder shows small schools of mackerel
23.07	60°22' N, 33°18' W	white-beaked dolphins	5	towards the vessel, feeding
23.07	58°33' N, 36°50' W	killer whale	3	towards the vessel, feeding, echo sounder shows small schools of mackerel at 15-20m, h 3-5 m
24.07	56°59' N, 39°34' W	pilot whale	3	crossing the course, feeding
24.07	56°57' N, 39°38' W	pilot whale	6	4 pilot whales towards the vessel angle 45 distance 800 m, 2 pilot whales angle 40 distance 1000 m feeding
11.08	54°32' N, 43°53' W	fin whale	1	towards the vessel, feeding
19.08	63°1' N, 25°38' W	humpback whale	1	in parallel to the vessel, feeding
23.08	57°12' N, 39°22' W	killer whale	1	before the vessel
07.09	59°44' N, 28°43' W	mink whale	1	towards the vessel
09.09	61°23' N, 12°25' W	fin whale	1	towards the vessel

Table 26. Marine mammals total numbers in the NAFO Regulatory Area in 2014.

Species	Number *	Occurrence number	% from total number
Pilot whale	99	16	45,4
Sperm whale	71	19	32,5
Harp seal	12	2	5,5
White-beaked dolphin	12	3	5,5
Killer whale	9	3	4,1
Fin whale	8	7	3,7
Humpback whale	3	3	1,4
Bottlenose dolphin	2	2	0,9
Minke whale	1	1	0,5
Common seal	1	1	0,5
Total:	218	57	100

Note: Estimated with regard for the mean by the range when there is no exact number in Table 24.