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**SCIENTIFIC COUNCIL MEETING - JUNE 2023****Russian Research Report for 2022****by K. Fomin and M. Pochtar**

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**SUBAREAS 1+2****A. Status of Fisheries***Greenland halibut (Reinhardtius hippoglossoides)*

In 2022, the directed trawl fishery for Greenland halibut was conducted off West Greenland from August to November.

In August-October, four trawlers were engaged in the fishery in the area to the north of 68°N, in the depth range of 850-1120 m. The highest catch rate was recorded in August, amounting to 13.9 tons per day of fishing on vessels of the N/S-2 type. Vessels of the N/S-1 type were engaged in the halibut fishery only in November, with a similar productivity – 13.7 tons per day of fishing. In the area to the south of 68°N, the fishery was conducted in August-November by five vessels at a depth of 890 to 1340 m. The highest catch rate was recorded in September, amounting to 20.2 tons per day of fishing.

In general, the fishing situation in the area was at a good level. The actual catch rate of vessels of the N/S-1 type was 14.8 tons, N/S-2 type – 14.2 tons per day of fishing, with an expert assessment of 10-12 tons per day of fishing.

According to preliminary data, the catch amounted to 1119.4 tons, of which in the Divisions 1AB – 433.2 tons, in the Divisions 1CD – 686.2 tons (Table 1). The by-catch in Divisions 1CD amounted to 0.9 tons of roundnose grenadier and 0.1 tons of blue wolffish, in Divisions AB the same species were found in catches occasionally.

*Other fish species*

There was no directed fishery for other fish species.

**B. Dedicated Research**

Biological data on Greenland halibut from Divs. 1ACD was collected by observers onboard fishing vessels.

*Greenland halibut*

In Div. 1A, male specimens of Greenland halibut had a length of 26-68 cm, with a predominance of individuals with a length of 44-46 cm (Table 2). Length of the female specimens varied from 26 to 82 cm, most specimens were 42-46 cm long. The average length of males and females was 48.0 and 49.7 cm, respectively.



In Div. 1C, the length of males varied from 36 to 70 cm, mainly 46-48 cm, with an average length of 49.8 cm. Females were 38-78 cm long, mainly 44 cm, on average 51.0 cm.

In Div. 1D, male specimens of Greenland halibut had a length of 40-70 cm, with an average of 53.7 cm and a predominance of individuals with a length of 52-54 cm (Table 2). A single case of catching an immature male with a length of 26 cm was registered. The length of females varied from 40 to 100 cm, with an average of 57.0 cm, most species were 48-50 cm long.

### SUBAREA 3

#### A. Status of Fisheries

##### *Greenland halibut*

Directed fishery for Greenland halibut took place from March to October at depths of 800-1260 m. Trawl fishery was carried out by 4 Russian vessels. Catch rates for N/S-1, 2 vessels ranged from 8.9 to 20.8 t, averaging 16.0 t per day of fishing. In total, the annual yield of Greenland halibut taken by Russian fishing vessels in the directed fishery was 1494.4 tons, by-catch in the redfish fishery was 0.2 tons, a total of 1,494.6 tons (Table 1). The by-catch was comprised of roughhead grenadier, roundnose grenadier, plaice, Atlantic halibut as well as polar shark (Table 3).

##### *Atlantic cod*

On the Flemish Cap Bank, the directed fishery for Atlantic cod was conducted in April at depths of 320-460 m onboard two vessels of the N/S-1 type with the average daily catch rate of 20.1 tons. The annual yield of cod taken by Russian fishing vessels in the directed fishery was 240.5 t. Besides, 0.3 t of cod were taken as a by-catch in the redfish fishery. The total Russian yield of cod was 240.8 t (Table 1).

##### *Atlantic redfish on the Flemish Cap Bank*

In 2022, directed fishery for redfish on the Flemish Cap Bank was conducted for a short time. In August, for 1 day, a Russian vessel of the N/S-1 type operated at depths of 400-470 m with a catch rate of 3.1 tons per day of fishing. According to preliminary data, the total annual yield taken by Russian fishing vessels in the directed redfish fishery was 3.1 t. By-catch included cod (Table 4). In addition, a small catch of redfish (3.2 t) was obtained in the cod fishing. According to preliminary data of the Polar Branch, the total Russian yield of redfishes on the Flemish Cap Bank in 2022 was 6.3 tons (Table 1).

##### *In division 30*

In 2022, in the south-western part of the Grand Bank of Newfoundland, two Russian vessels of the N/S-1 type operated sporadically from January to April at depths of 140-540 m, and from July to September at depths of 180-390 m. The highest catch rate was observed in July (24.3 tons of redfish per day of fishing) and averaged 18.9 t per day of fishing.

In general, Russian vessels caught 233.9 tons of redfish in directed fishery. By-catch of other species amounted to 47.0 t (Table 4). Redfishes were taken as by-catch in the witch flounder fishery (5.6 t), as well as other species fishery (41.6 t). The total yield taken by Russian fishing vessels in the directed redfish fishery was 281.1 t with a national quota of 6500 t (Table 1). The significant deviation of the actual catch from the estimated one is due to the lack of fishing efforts.

##### *In Divisions 3LN*

In 2022, Russian directed fishery was conducted from January to May and from July to September by vessels of the N/S-1 type at depths of 160-630 m. Redfish catch rate using bottom trawl averaged 16.6 t per day of fishing.

The highest catch rate of redfish for vessels of the N/S-1 type was observed in May amounting to 22.8 t per day of fishing.

According to preliminary Russian data, Russian vessels caught 2491.8 t of redfish in the directed fishery. In addition, by-catch of redfish was obtained in the fishing of witch flounder (2.7 t) and other fish species (32.0 t).

The total Russian yield of redfishes amounted to 2526.5 tons (Table 1). By-catch was comprised of 184.0 t of other species, including 75.8 t of Atlantic halibut (Table 4).

#### *Skates*

Directed fishery for skates in 2022 was conducted sporadically: from January to February at depths of 60-180 m, in March at a depth of 430 m and from August to September at depths of 290-300 m. Calculation of catch rate in tons per day of fishing in this case has an appreciable error because skate was fished by separate trawls with long intervals between them. The highest catch rate per trawling was observed in January, amounting to 10.9 tons in 4.2 hours, which in terms of productivity is equal to 44.9 tons per day of fishing or 2.6 tons per hour of trawling. On average, catch rate in skate fishery was 13.5 tons per day of fishing. In total, 34.6 tons of skate were caught in directed fishery. Skates were also taken as by-catch in the yellowtail flounder fishery (0.8 t), witch flounder fishery (1.1 t), redfish fishery (44.0 t) and other species fishery (4.0 t). Total Russian yield of skates in the Divs. 3LMNO for the whole period amounted to 84.6 t (Table 1).

#### *Yellowtail flounder*

The Russian directed fishery for yellowtail flounder was conducted in January-March at depths of 60-70 m. The average daily catch rate was 12.7 t. Over the year, Russian fishing vessels caught 95.1 t of the species in the directed fishery. By-catch included 0.9 t of skates, 0.8 t of cod, 9.7 t of American plaice and 0.4 t of Atlantic halibut. Total Russian yield of yellowtail flounder amounted to 95.1 t (Table 1).

#### *Witch flounder*

The Russian directed fishery for witch flounder was conducted in March-April at depths of 250-600 m. The average daily catch rate was 7.7 t.

Over the year, Russian fishing vessels caught 45.9 t of the species in the directed fishery. Another 16.5 tons were taken as by-catch in the redfish fishery and 34.6 tons in the fishery for other species. According to preliminary data, the total catch was 96.9 tons (Table 1).

#### *Other species*

Directed fishery for other species was not conducted.

### **B. Dedicated Research**

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

#### *Greenland halibut*

In Div. 3L, male specimens of Greenland halibut of 24-64 cm occurred, with an average of 47.1 cm. Specimens of 46-48 cm prevailed (Table 5). The length of females varied from 26 to 82 cm, with an average of 50.4 cm, most species were 46-50 cm long.

In Div. 3M, the length of male specimens of Greenland halibut varied from 36 to 60 cm, predominantly 46-48 cm, with an average of 47.8 cm. The length of females varied from 36 to 72 cm, with an average of 50.9 cm, most species were 46-50 cm long.

In general, the length of Greenland halibut in Divs. 3LMNO was 26-82 cm, with an average of 47.1 cm for males and 50.4 cm for females. The sex ratio (males to females) in the catches was 1:1.6 (Table 5). The halibut age varied from 2 to 17 years. Most of the specimens taken were 5-6 years old (Table 6).

*Acadian redfish (Sebastes fasciatus)*

In Div. 3L, specimens with a length of 24-38 cm were caught in small numbers, with an average of 27.4 cm for females and 25.3 cm for males. Most specimens were 24-27 cm long.

In Div. 3N, redfish with a length of 18-39 cm was caught. Male specimens were 19-33 cm long, female specimens were 18-39 cm long. The average length of males and females was 24.8 cm and 28.5 cm, respectively.

The age of redfish caught in Divs. 3LN was not estimated in 2022. According to the data for 2021, the age ranged from 5 to 23 years, most of the caught individuals were 8-13 years old (Table 7).

*Roughhead grenadier*

In Div. 3L, individuals with a length of 36-75 cm were caught, with an average of 55.1 cm (Table 8).

*Roundnose grenadier*

In Div. 3M, 3 specimens of roundnose grenadier were caught. The length of the caught fish was 49, 51 and 52 cm, respectively.

*Skates*

In Div. 3L, 3 specimens 57, 60 and 84 cm long were caught.

*Arctic skate*

In Div. 3L, 2 specimens with a length of 74 and 78 cm were caught.

In Div. 3M, 1 individual 61 cm long was caught.

*Spinytail skate*

In Div. 3L and Div. 3M, 2 specimens with a length of 76 and 77 cm were caught.

*Blue wolffish*

Blue wolffish was caught in small amounts. In Div. 3L, the length varied from 39 to 90 cm. The average length was 62.2 cm (Table 9).

*Spotted wolffish*

In Div. 3N, 4 specimens of spotted wolffish were caught, 52-61 cm long. The average length was 57.5 cm (Table 10).

*Blue antimora*

Blue antimora was caught occasionally. In Div. 3L, the size range of blue antimora was represented by individuals with a length of 33-49 cm, with an average of 39.0 cm (Table 11).

*Black dogfish*

In Div. 3L, it was caught occasionally. In Div. 3M, the length of the caught specimens ranged from 60 to 73 cm, with an average of 66.7 cm (Table 12).

*Threebeard rockling*

In Div. 3L, individuals 33-48 cm long were found in small numbers, with an average length of 42.0 cm (Table 13).

*Lycodes esmarkii*

In Div. 3L, individuals with a length of 39-63 cm were caught, with an average of 47.2 cm (Table 14).

*Nezumia*

In Divisions 3L, nezumia was found in catches occasionally. The length of caught fish ranged from 26 to 34 cm, the average length was 31.4 cm (Table 15).

*Atlantic halibut*

In Divisions 3L, 1 specimen of Atlantic halibut 118.0 cm long was caught.

*VME indicator species*

There were several catches of sponges and corals recorded during the observers' activities onboard fishing vessels. In none of those catches the VME mass exceeded the established threshold value (Table 16).

*Marine mammals*

As of the observations from aboard fishing vessels, only cetaceans (*Cetacea*) were observed in Divs. 3LM in the period from March to August, namely: pilot whales (*Globicephala melas*), sperm whales (*Physeter microcephalus*), as presented in Table 17. The total number of marine mammal records (occurrences) is 27 (Table 18).

No discards were observed in the main species fisheries.

**Table 1.** Preliminary catches taken by Russian trawlers in NAFO SA 1-3 in 2022.

Species	Division	Catch, t
<b>Greenland halibut</b>	1A	433,2
	1B	-
	1C	249,3
	1D	436,9
	<b>1ABCD</b>	<b>1119,4</b>
<b>Greenland halibut</b>	3L	1432,5
	3M	62,1
	3N	0
	3O	0
	<b>3LMNO</b>	<b>1494,6</b>
<b>American plaice</b>	3M	0,5
	3N	35,7
	3O	6,8
	<b>3MNO</b>	<b>43,0</b>
<b>Yellowtail flounder</b>	<b>3N</b>	<b>95,1</b>
<b>Witch flounder</b>	3N	46,2
	3O	50,8
	<b>3NO</b>	<b>96,9</b>
<b>Roughhead grenadier</b>	3L	8,1
	3M	0,5
	<b>3LM</b>	<b>8,6</b>
<b>Roundnose grenadier</b>	<b>3L</b>	<b>6,8</b>
<b>Redfish spp.</b>	3L	401,2
	3M	6,3
	3N	2125,4
	3O	281,1
	<b>3LMNO</b>	<b>2813,9</b>
<b>Skate</b>	3L	22,8
	3N	52,8
	3O	9,0
	<b>3LNO</b>	<b>84,6</b>
<b>White hake</b>	3N	0,8
	3O	1,8
	<b>3NO</b>	<b>2,6</b>
<b>Atlantic cod</b>	3L	1,9
	3M	240,8
	3N	33,9
	3O	2,9
	<b>3LMNO</b>	<b>279,5</b>
<b>Atlantic Halibut</b>	3L	9,7
	3M	0,4
	3N	77,1
	3O	3,3
	<b>3LMNO</b>	<b>90,5</b>

**Table 2.** Greenland halibut (*Reinhardtius hippoglossoides*) length composition (ind.) in the Russian trawl catches in NAFO Div. 1 ACD in 2022.

Length, cm	1A			1C			1D			1ACD		
	F	M	Total	F	M	Total	F	M	Total	F	M	Total
26	4	2	6					1	1	4	3	7
28	2	2	4							2	2	4
30	4		4							4		4
32	1	2	3							1	2	3
34	5	6	11							5	6	11
36	7	10	17		1	1				7	11	18
38	17	24	41	5	14	19				22	38	60
40	43	51	94	9	43	52	3	3	6	55	97	152
42	103	94	197	20	52	72	10	10	20	133	156	289
44	108	113	221	31	83	114	14	16	30	153	212	365
46	112	102	214	19	100	119	23	35	58	154	237	391
48	98	89	187	21	127	148	37	79	116	156	295	451
50	79	102	181	14	99	113	40	137	177	133	338	471
52	80	86	166	16	92	108	31	191	222	127	369	496
54	73	67	140	11	88	99	23	158	181	107	313	420
56	67	37	104	12	60	72	37	141	178	116	238	354
58	54	20	74	10	39	49	30	93	123	94	152	246
60	38	9	47	5	14	19	19	39	58	62	62	124
62	19	10	29	3	7	10	13	18	31	35	35	70
64	8	3	11	5	5	10	10	7	17	23	15	38
66	6	1	7	3	1	4	9	5	14	18	7	25
68	5	1	6	4	1	5	4	6	10	13	8	21
70	3		3	3	1	4	6	3	9	12	4	16
72	3		3	5		5	3		3	11		11
74	1		1				6		6	7		7
76	1		1				4		4	5		5
78				1		1	2		2	3		3
80							3		3	3		3
82	1		1				3		3	4		4
84							2		2	2		2
86							3		3	3		3
88							3		3	3		3
90							1		1	1		1
92							3		3	3		3
94							1		1	1		1
96							1		1	1		1
98												
100							1		1	1		1
Total	942	831	1773	197	827	1024	345	942	1287	1484	2600	4084
Mean length, cm	49.7	48.0	48.9	51.0	49.8	50.0	57.0	53.7	54.6	51.6	50.6	51.0

**Table 3.** Bycatch in directed Greenland halibut fishery by Russian bottom trawlers in NAFO Divs. 3LMNO in 2022

Species	Catch, t
Atlantic halibut	0,840
Roundnose grenadier	6,540
Roughhead grenadier	8,624
Polar shark	2,500
Witch flounder	0,200

**Table 4.** Bycatch in directed redfish fishery by Russian bottom trawlers in NAFO Divs. 3LMNO in 2022.

Species	Catch, t
Divisions 3LN	
Witch flounder	7,605
American plaice	23,692
Atlantic cod	33,250
Atlantic halibut	75,776
Greenland halibut	0,242
Skate	37,522
Hake	5,655
Shark without species	0,080
Roundnose grenadier	0,215
Division 3M	
Atlantic cod	0,300
Division 3O	
Witch flounder	9,915
Skate	6,450
White hake	0,030
American plaice	3,945
Hake	23,250
Atlantic halibut	1,172
Atlantic cod	2,195
Total	
Witch flounder	17,520
Skate	43,972
White hake	0,030
American plaice	27,637
Atlantic cod	35,745
Atlantic halibut	76,948
Roundnose grenadier	0,215
Hake	28,905
Shark without species	0,080
Greenland halibut	0,242



**Table 5.** Greenland halibut (*Reinhardtius hippoglossoides*) length composition (ind.) in the Russian trawl catches in NAFO Divs. 3LM in 2022.

Length, cm	3L			3M			3LM		
	Females	Males	Total	Females	Males	Total	Females	Males	Total
24		1	1					1	1
26	1	2	3				1	2	3
28	3	7	10				3	7	10
30	4	4	8				4	4	8
32	15	13	28				15	13	28
34	16	25	41				16	25	41
36	32	35	67	1	2	3	33	37	70
38	67	93	160	5	5	10	72	98	170
40	133	148	281	9	10	19	142	158	300
42	260	277	537	14	16	30	274	293	567
44	445	397	842	35	20	55	480	417	897
46	645	520	1165	48	38	86	693	558	1251
48	698	557	1255	38	47	85	736	604	1340
50	622	371	993	47	28	75	669	399	1068
52	499	245	744	29	19	48	528	264	792
54	340	133	473	23	9	32	363	142	505
56	339	65	404	26	6	32	365	71	436
58	228	29	257	23	2	25	251	31	282
60	167	7	174	16	1	17	183	8	191
62	104	2	106	7		7	111	2	113
64	58	2	60	4		4	62	2	64
66	30		30	3		3	33		33
68	22		22	1		1	23		23
70	13		13			0	13		13
72	4		4	1		1	5		5
74	5		5				5		5
76	6		6				6		6
78									
80	2		2				2		2
82	1		1				1		1
<b>Total</b>	4759	2933	7692	330	203	533	5089	3136	8225
<b>Mean</b>	50.4	47.1	49.1	50.9	47.8	49.7	50.4	47.1	49.2
<b><u>length, cm</u></b>									

**Table 6.** Age-length composition of Greenland halibut (*Reinhardtius hippoglossoides*) in the Russian trawl catches in NAFO Divs. 3LMN in 2022.

Length, cm	Age																Total
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
24	1																1
26	1	2															3
28		10															10
30		7															7
32		9	8														17
34		3	17	4													24
36			13	9	1												23
38			4	20	8												32
40				17	18												35
42				6	18	2											26
44					18	8											26
46					7	12	5										24
48					1	15	9										25
50					1	5	14	4									24
52							14	7									21
54							6	21	4								31
56							1	13	16								30
58								6	13	5							24
60									9	18	3						30
62									4	11	12						27
64										3	10	2					15
66										1	5	4					10
68										1		4	1				6
70													1				1
72													3				3
74															2	1	3
76															1	1	2
<b>Total</b>	2	31	42	56	72	42	49	51	46	39	30	10	5	0	3	2	480
<b>Mean length, cm</b>	25.5	30.5	35.1	39.0	42.6	47.2	51.0	54.9	58.2	61.4	63.5	66.7	71.0		75.0	75.0	<b>48.7</b>
<b>Mean weight, g</b>	115.0	217.4	338.8	468.8	632.9	883.3	1113.7	1398.6	1684.5	2030.3	2322.5	2761.5	3415.0		4290.0	4475.0	<b>1143.5</b>

**Table 7.** Age-length composition of *S. fasciatus* in the Russian trawl catches in NAFO Div. 3LN in 2021.

Length, cm	Age																Total
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	23	
18	1																1
19	1	1															2
20		2	3	1													6
21																	
22		1	3	12	7												23
23			1	16	6	1											24
24				9	4	2											15
25				4	10	3	1										18
26					9	14	1										24
27					2	13	10	2									27
28						7	11	10	1								29
29							15	10	6								31
30							5	13	11	1							30
31								9	15	5	2						31
32								1	13	9	11						34
33									3	8	8	7					26
34											8	9	3				20
35												3	2				5
36												2	3	1			6
37													1	2	1		4
38																	
39																1	1
Total	2	5	10	46	38	40	43	45	49	23	29	21	9	3	1	1	357
Mean length, cm	18,5	20,4	21,2	22,9	24,4	26,4	28,2	29,4	30,9	32,0	32,8	34,0	35,2	36,7	37,0	39,0	28,03
Mean weight, g	85.0	119.0	135.5	170.9	213.7	279.6	328.5	379.4	435.8	496.7	531.7	599.3	693.9	855.0	910.0	1035.0	361.7

**Table 8.** Roughhead grenadier (*Macrourus berglax*) length composition (ind.) in the Russian trawl catches in NAFO Div. 3L in 2022.

Length, cm	3L
36	2
39	2
42	6
45	12
48	8
51	5
54	2
57	2
60	7
63	6
66	2
69	3
72	1
75	6
<b>Total</b>	<b>64</b>
<b>Mean length, cm</b>	<b>55,1</b>

**Table 9.** Length composition (ind.) of Blue wolffish (*Anarhichas latifrons*) in the Russian trawl catches in NAFO Div. 3L in 2022.

Length, cm	3L
39	1
42	1
45	1
48	
51	1
54	2
57	3
60	5
63	3
66	
69	3
72	
75	
78	
81	
84	2
87	
90	1
<b>Total</b>	<b>23</b>
<b>Mean length, cm</b>	<b>62,2</b>

**Table 10.** Length composition (ind.) of Spotted wolffish (*Anarhichas minor*) in the Russian trawl catches in NAFO Div. 3N in 2022.

Length, cm	3N
52	1
55	1
58	1
61	1
<b>Total</b>	4
<b>Mean length, cm</b>	57.5

**Table 11.** Length composition (ind.) of Blue antimora (*Antimora rostrata*) in the Russian trawl catches in NAFO Div. 3L in 2022.

Length, cm	3L
33	1
35	1
37	
39	
41	1
43	
45	
47	
49	1
<b>Total</b>	4
<b>Mean length, cm</b>	39.0

**Table 12.** Length composition (ind.) of Black dogfish (*Centroscyllium fabricii*) in the Russian trawl catches in NAFO Div. 3L in 2022.

Length, cm	3L
60	1
61	1
62	1
63	
64	
65	
66	
67	
68	
69	
70	1
71	
72	1
73	1
<b>Total</b>	6
<b>Mean length, cm</b>	66,7

**Table 13.** Length composition (ind.) of Threebeard rockling (*Gaidropsarus ensis*) in the Russian trawl catches in NAFO Div. 3L in 2022.

Length, cm	3L
33	4
36	4
39	11
42	11
45	10
48	3
<b>Total</b>	43
<b>Mean length, cm</b>	42.0

**Table 14.** Length composition (ind.) of *Lycodes esmarkii* in the Russian trawl catches in NAFO Div. 3L in 2022.

Length, cm	3L
39	1
41	1
43	1
45	2
47	1
49	4
51	
53	1
55	
57	
59	
61	
63	1
<b>Total</b>	12
<b>Mean length, cm</b>	47,2

**Table 15.** Length composition (ind.) of *Nezumia* (*Nezumia bairdii*) in the Russian trawl catches in NAFO Div. 3LM in 2022.

Length, cm	3L
26	1
27	
28	
29	
30	
31	1
32	
33	2
34	1
<b>Total</b>	5
<b>Mean length, cm</b>	31.4

**Table 16.** Occurrences of VME indicator species in the NAFO Regulatory Area in 2022.

Trawl coordinates				Trawl depth, m	Species name	Number	Length, cm	Weight, g
Start		Finish						
N	W	N	W					
48.63	45.68	48.43	46.08	1125 – 1013	Anthoptilum spp.	1	48	37
48.13	47.62	48.13	47.13	966 – 919	Anthoptilum spp.	1	16	21
48.12	47.18	48.12	47.60	844 – 845	Actinia callosa	1	6	51
48.15	47.05	48.32	46.55	1052 – 1144	Halipterus spp.	1	67	55
48.12	47.15	48.12	47.62	846 – 868	Pennatula spp.	1	8	20
48.12	47.18	48.13	47.62	916 – 923	Keratoisis spp.	1	17	19
48.13	47.60	48.13	47.13	999 – 975	Anthoptilum spp.	2	14 and 19	11 and 22
48.12	47.18	48.13	47.58	921 – 908	Anthoptilum spp.	1	49	38
					Actinaria spp.	1	5	42
48.15	47.58	48.17	47.03	1128 – 1154	Anthoptilum spp.	1	36	25
					Keratoisis spp.	1	15	13
48.12	47.58	48.12	47.13	860 – 885	Polymastia spp.	1	3	10
48.15	47.27	48.25	46.78	1150 – 1147	Anthoptilum spp.	1	24	11
48.12	47.15	48.13	47.60	898 – 936	Funiculina spp.	1	45	33
48.27	46.53	48.15	47.02	905 – 1040	Cladorhiza spp.	1	8	7
48.13	47.12	48.13	47.68	950 – 980	Anthoptilum spp.	1	27	38
48.13	47.12	48.13	47.72	962 – 1043	Actinia callosa	1	7	63
48.12	47.12	48.13	47.70	828 – 907	Actinia callosa	2	5 and 6	36 and 41
48.27	46.57	48.13	47.07	950 – 990	Anthoptilum spp.	1	34	28
48.13	47.67	48.13	47.12	970 – 950	Pennatula spp.	1	12	35
48.13	47.65	48.13	47.10	1000 – 1015	Anthoptilum spp.	1	29	22

**Table 17.** Marine mammals recording in the NAFO Regulatory Area in 2022.

Date	Latitude (N)	Longitude (W)	Species	Number	Notes
09.07	48.12	47.63	<i>Globicephala melaena</i>	5-6	At a distance of 100 m, headed 150°
15.07	48.13	47.18	<i>Globicephala melaena</i>	4-5	At a distance of 200 m, headed 80°
03.08	48.15	47.08	<i>Globicephala melaena</i>	4-5	Picking up fish during trawl hauling
14.08	48.12	47.57	<i>Globicephala melaena</i>	6-8	Picking up fish during trawl hauling
22.06 - 15.08	48.12- 48.17	47.13- 47.65	<i>Physeter macrocephalus</i>	A total of 17 - 20 ind.	Followed the vessel singly and in groups of 2-4 during trawling, daily. Picking up fish during trawl hauling.

**Table 18.** Marine mammals total numbers in the NAFO Regulatory Area in 2022.

Species	Number	Occurrences	% ratio of the total number
<i>Globicephala melaena</i>	19-24	4	15%
<i>Physeter macrocephalus</i>	17-20	23	85%
Total	36-44	27	100%