

**SCIENTIFIC COUNCIL MEETING – JUNE 2011****ESTONIAN RESEARCH REPORT FOR 2010**

by

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This Report contains information for Estonian fishing vessels excluding vessels targeting shrimp. Analysis of by-catch in shrimp fishery is included. All catch, effort and length distribution information is from NAFO observers on board. In Estonia, NAFO observers are employed by the Estonian Marine Institute, and they are specially trained to collect also basic scientific data. As there was no Estonian research report presented in 2010, this report presents data both for 2009 and 2010.

Sub-area 3**A. Status of the Fishery**

In 2006 there were 2 vessels involved in fishery. In 2007-2010 there has been mainly 1 vessel involved in fishery. In 2009 and 2010 there was 1 additional vessel that targeted GHL in last months of these years. Fishing effort has been decreasing in 2006-2009. In 2010 the effort increased to the levels of 2006-2007 (Tables 1-2) and the catches and discards of demersal and pelagic fish directed fisheries are presented in table 3. Observer estimated catches of shrimp and discards in shrimp directed fishery in 3L and 3M are in table 4.

In addition to effort and discard information, specifically trained NAFO observers collected length, age and sex data. The list of collected data is in Table 5. All lengths are TL and length group (LG) 10 means lengths from 10.0 to 10.9 cm. Mesh size of trawls for mixed fishery of demersal and pelagic fish, in codend was 139-145 mm, for skates 286 mm. Length distributions are presented as sampled number of fish (Tables 7-10 , figures 1-11). Length distribution of *Sebastes sp.* bycatch in shrimp fishery in 2007-2010 is given in Table 6 and Figures 12-13.

Table 1. Fishing effort (hours) of Estonian fleet in NAFO area in 2009-2010 by division and month. Shrimp fishery excluded.

Month	2009					2010				
	Division				Total	Division				Total
	3L	3M	3N	3O		3L	3M	3N	3O	
1	0	0	0	0	0	91	26	0	0	116
2	224	108	0	0	332	325	110	0	0	435
3	249	132	8	0	389	364	56	4	0	425
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	51	15	9	0	76
6	0	0	0	0	0	75	143	0	49	266
7	0	0	0	0	0	167	319	0	0	486
8	18	62	12	41	132	0	0	0	0	0
9	244	229	0	0	472	0	139	99	0	238
10	121	50	0	0	171	377	199	0	0	576
11	0	0	0	0	0	115	102	39	0	257
12	60	0	0	0	60	220	0	0	0	220
Total	916	580	20	41	1556	1785	1107	152	49	3093

Table 2. Fishing effort (hours) of Estonian fleet in NAFO area in 2006-2010 by division. Shrimp fishery excluded.

Division	2006	2007	2008	2009	2010
3L	1621	1705	1527	916	1785
3M	1649	367	324	580	1107
3N	567	388	230	20	152
3O	0	172	8	41	49
Total effort, hrs	3843	2652	2089	1556	3093

Table 3. Observer estimated catch and discard (tons) of Estonian fleet in NAFO area in 2009-2010. Shrimp fishery excluded.

Year	Species	3L		3L Total		3M		3M Total		3N		3N Total		3O		3O Total		Grand Total
		catch	discard			catch	discard			catch	discard			catch	discard			
2009	CAA	0	0	0		5	1	5		0	0	0				0	0	5
	COD	0		0		127	0	127		0		0		5		0	5	133
	GDE	1	1	2		0	0	0		0	0	0						3
	GHL	258	0	258		47	0	47		2	0	2						307
	MZZ		1	1			1	1			0	0				0	0	3
	PLA	2		2		11		11		11	0	11		5			5	29
	RED	5		5		1652	2	1654		0	0	0		99		0	100	1759
	RHG	32	4	36		10	1	11		0	0	0						47
	SKA	4	0	4		16	0	16		4	0	4		5		0	5	29
	SQI					0	0	0						5		0	5	5
	WIT	1		1		7		7		0		0		0			0	8
2009 Total		302	7	309		1874	6	1881		17	0	17		119		1	120	2327
2010	CAB		1	1			0	0										1
	CAS	1	0	1		10	1	11		1		1		1			1	13
	COD	0	0	0		81	9	91		9	0	10		2		0	2	102
	GDE	16	3	19		5	0	6		0	0	0						25
	GHL	382	1	383		54	0	54		0	0	0		0			0	437
	HAL	1		1		1		1		1		1						3
	MZZ		5	5			2	2			0	0				0	0	8
	PLA	0	0	1		4		4		5	0	5		0			0	10
	RED	3	0	3		1170	1	1170		74	0	74		103		0	103	1351
	RHG	69	5	75		30	1	31		0	0	0						106
	RNG	0	3	3		0	0	0		0		0						3
	SKA	5	0	5		27	0	27		140	0	140		1		0	1	172
	WIT	3		3		8		8		1		1		0			0	12
	YEL	0		0		0		0		4	0	4		0			0	4
2010 Total		481	18	500		1390	14	1404		235	0	235		106		0	107	2245

Table 4. Observer estimated catches of shrimp and discards in shrimp directed fishery in 3L and 3M in 2009 and 2010.

		2009				2009 Total
		3L		3M		
		tons	%	tons	%	
Catch	Scientific name	1605.49		2055.33		3660.81
PRA	<i>Pandalus borealis</i>	1605.49	100.00	2055.33	100.00	3660.81
Discard		22.17		35.35		57.52
CAP	<i>Mallotus villosus</i>	7.51	0.47	0.08	0.00	7.59
PRA	<i>Pandalus borealis</i>	6.50	0.40	7.83	0.38	14.33
MZZ	Marine species not specified	4.07	0.25	8.70	0.42	12.77
RED	<i>Sebastes sp.</i>	3.25	0.20	15.66	0.76	18.91
GHL	<i>Reinhardtius hippoglossoides</i>	0.24	0.01	0.08	0.00	0.32
ELZ	<i>Lycodes sp.</i>	0.15	0.01	0.04	0.00	0.19
LAX	<i>Notoscopelus sp.</i>	0.14	0.01	2.33	0.11	2.47
RHG	<i>Macrourus berglax</i>	0.10	0.01	0.18	0.01	0.28
GPE	<i>Urophycis chesteri</i>	0.10	0.01	0.22	0.01	0.31
SKA	<i>Raja sp.</i>	0.09	0.01	0.01	0.00	0.10
CAA	<i>Anarhichas lupus</i>	0.03	0.00	0.21	0.01	0.24
Grand Total		1627.66		2090.67		3718.33
		2010				2010 Total
		3L		3M		
		tons	%	tons	%	
Catch	Scientific name	2006.60		264.05		2270.65
PRA	<i>Pandalus borealis</i>	2006.60	100.00	264.05	100.00	2270.65
Discard		21.93		3.00		24.93
MZZ	Marine species not specified	10.18	0.51	0.87	0.33	11.05
PRA	<i>Pandalus borealis</i>	7.05	0.35	0.60	0.23	7.64
CAP	<i>Mallotus villosus</i>	2.79	0.14	0.00	0.00	2.79
RED	<i>Sebastes sp.</i>	1.88	0.09	1.43	0.54	3.31
GHL	<i>Reinhardtius hippoglossoides</i>	0.02	0.00	0.01	0.01	0.03
SKA	<i>Raja sp.</i>	0.01	0.00	0.01	0.00	0.02
ELZ	<i>Lycodes sp.</i>	0.01	0.00	0.01	0.00	0.02
LAX	<i>Notoscopelus sp.</i>	0.00	0.00	0.06	0.02	0.06
Grand Total		2028.53		267.05		2295.58

Table 5. Biological sampling list for Estonia in 2009 and 2010. All discards sampling is in shrimp fishery. *Sampling of discard in shrimp fisheries; **Number of sexed fish; ***Only age structures collected, fish not aged yet

Year	Country	Species Code	NAFO Division	Gear	Month	Type of Sample	Directed/ Bycatch/ Discard*	No. of samples	No. Measured	No. Sexed**	No. Aged***	No. Weighed
2009	EST	GHL	3L	OTB	2	OC	Directed	9	586	586	294	586
2009	EST	GHL	3L	OTB	3	OC	Directed	9	628	628	326	628
2009	EST	GHL	3L	OTB	6	OC	Directed	4	20		20	20
2009	EST	GHL	3L	OTB	7	OC	Directed	16	80		80	80
2009	EST	GHL	3L	OTB	8	OC	Directed	2	10		10	10
2009	EST	GHL	3L	OTB	9	OC	Directed	13	65		65	65
2009	EST	GHL	3L	OTB	10	OC	Directed	3	15		15	15
2009	EST	GHL	3L	OTB	12	OC	Directed	5	250	200	250	250
2009	EST	PRA	3L	OTB	1	OC	Directed	22	3565	3565		
2009	EST	PRA	3L	OTB	2	OC	Directed	20	3038	3038		
2009	EST	PRA	3L	OTB	3	OC	Directed	10	820	820		
2009	EST	PRA	3L	OTB	9	OC	Directed	10	1794	1794		
2009	EST	PRA	3L	OTB	10	OC	Directed	18	2808	2808		
2009	EST	PRA	3L	OTB	11	OC	Directed	29	4780	4780		
2009	EST	PRA	3L	OTB	12	OC	Directed	21	3887	3887		
2009	EST	RED	3L	OTB	2	OC	Directed	1	32	32	32	32
2009	EST	RED	3L	OTB	6	OC	Directed	4	20	20	20	20
2009	EST	RED	3L	OTB	7	OC	Directed	2	10	10	10	10
2009	EST	RED	3L	OTB	9	OC	Directed	3	15	15	15	15
2009	EST	GHL	3M	OTB	3	OC	Directed	2	111	111	61	111
2009	EST	GHL	3M	OTB	7	OC	Directed	2	10		10	10
2009	EST	GHL	3M	OTB	8	OC	Directed	1	5		5	5
2009	EST	GHL	3M	OTB	9	OC	Directed	4	20		20	20
2009	EST	GHL	3M	OTB	10	OC	Directed	1	5		5	5
2009	EST	PRA	3M	OTB	1	OC	Directed	41	7758	7758		
2009	EST	PRA	3M	OTB	2	OC	Directed	43	8281	8281		
2009	EST	PRA	3M	OTB	3	OC	Directed	5	574	574		
2009	EST	PRA	3M	OTB	9	OC	Directed	12	1993	1993		
2009	EST	PRA	3M	OTB	10	OC	Directed	10	1827	1827		
2009	EST	PRA	3M	OTB	11	OC	Directed	8	1586	1586		
2009	EST	PRA	3M	OTB	12	OC	Directed	6	1409	1409		
2009	EST	RED	3M	OTB	2	OC	Directed	7	580	557	243	580
2009	EST	RED	3M	OTB	3	OC	Directed	3	283	279	146	283

Year	Country	Species Code	NAFO Division	Gear	Month	Type of Sample	Directed/ Bycatch/ Discard*	No. of samples	No. Measured	No. Sexed**	No. Aged***	No. Weighed
2009	EST	RED	3M	OTB	6	OC	Directed	4	20	20	20	20
2009	EST	RED	3M	OTB	7	OC	Directed	10	50	50	50	50
2009	EST	RED	3M	OTB	8	OC	Directed	2	10	10	10	10
2009	EST	RED	3M	OTB	9	OC	Directed	11	55	55	55	55
2009	EST	RED	3M	OTB	10	OC	Directed	3	15	15	15	15
2009	EST	GHL	3N	OTB	3	OC	Directed	1	73	73	41	73
2009	EST	RED	3O	OTB	8	OC	Directed	3	15	15	15	15
2009	EST	RED	3M	OTB	1	OC	Discard	25	3208	2	2	159
2009	EST	RED	3M	OTB	2	OC	Discard	30	4167	14	14	131
2009	EST	RED	3M	OTB	3	OC	Discard	5	134			5
2009	EST	RED	3M	OTB	9	OC	Discard	9	1105			
2009	EST	RED	3M	OTB	10	OC	Discard	11	2025			
2009	EST	RED	3M	OTB	11	OC	Discard	6	1020			
2009	EST	RED	3M	OTB	12	OC	Discard	6	1261			
2010	EST	RED	3L	OTB	9	OC	Discard	9	944			
2010	EST	RED	3L	OTB	10	OC	Discard	26	4605			
2010	EST	RED	3L	OTB	11	OC	Discard	15	3000			
2010	EST	RED	3M	OTB	1	OC	Discard	15	3016			
2010	EST	RED	3M	OTB	2	OC	Discard	1	191			
2010	EST	GHL	3L	OTB	1	OC	Directed	2	86	86	76	86
2010	EST	GHL	3L	OTB	2	OC	Directed	13	848	848	492	848
2010	EST	GHL	3L	OTB	3	OC	Directed	12	1003	1003	451	1003
2010	EST	GHL	3L	OTB	5	OC	Directed	2	48	48	48	48
2010	EST	GHL	3L	OTB	6	OC	Directed	2	67	67	67	67
2010	EST	GHL	3L	OTB	7	OC	Directed	1	20	20	20	20
2010	EST	GHL	3L	OTB	10	OC	Directed	9	360	336	360	360
2010	EST	GHL	3L	OTB	11	OC	Directed	5	129	129	54	129
2010	EST	GHL	3L	OTB	12	OC	Directed	12	396	396	396	396
2010	EST	PRA	3L	OTB	1	OC	Directed	10	1787	1787		
2010	EST	PRA	3L	OTB	2	OC	Directed	11	1937	1937		
2010	EST	PRA	3L	OTB	8	OC	Directed	2	238	238		
2010	EST	PRA	3L	OTB	9	OC	Directed	25	3961	3961		
2010	EST	PRA	3L	OTB	10	OC	Directed	26	3771	3771		
2010	EST	PRA	3L	OTB	11	OC	Directed	19	3269	3269		
2010	EST	PRA	3L	OTB	12	OC	Directed	2	385	385		
2010	EST	GHL	3M	OTB	3	OC	Directed	1	85	85	56	85

Year	Country	Species Code	NAFO Division	Gear	Month	Type of Sample	Directed/ Bycatch/ Discard*	No. of samples	No. Measured	No. Sexed**	No. Aged***	No. Weighed
2010	EST	GHL	3M	OTB	7	OC	Directed	5	102	102	102	102
2010	EST	GHL	3M	OTB	10	OC	Directed	2	80	80	80	80
2010	EST	GHL	3M	OTB	11	OC	Directed	2	80	78	80	80
2010	EST	PRA	3M	OTB	1	OC	Directed	16	3255	3255		
2010	EST	PRA	3M	OTB	2	OC	Directed	2	370	370		
2010	EST	RED	3M	OTB	2	OC	Directed	4	405	405	119	405
2010	EST	RED	3M	OTB	3	OC	Directed	1	216	107	50	216
2010	EST	RED	3M	OTB	5	OC	Directed	1	48	48	48	48
2010	EST	RED	3M	OTB	6	OC	Directed	10	396	395	396	396
2010	EST	RED	3M	OTB	7	OC	Directed	4	120	120	120	120
2010	EST	RED	3M	OTB	9	OC	Directed	4	80	69	80	80
2010	EST	RED	3M	OTB	10	OC	Directed	3	120	119	120	120
2010	EST	RED	3M	OTB	11	OC	Directed	2	80	78	80	80
2010	EST	RED	3N	OTB	5	OC	Directed	2	88	88	88	88
2010	EST	RED	3N	OTB	9	OC	Directed	1	20	20	20	20
2010	EST	RED	3N	OTB	11	OC	Directed	2	80	80	80	80
2010	EST	RED	3O	OTB	6	OC	Directed	4	192	192	192	192

Table 6. Length distribution of *Sebastes* sp. bycatch in shrimp fishery in 2007-2010. Trawl mesh size is 44mm and Nordmore bar spacing is 22mm.

RED	LG	3M						3L	
		No. of specimens			%			No. of specimens	%
		2007	2008	2009	2007	2008	2009	2010	2010
	6		1	3	0.00	0.01	0.74		0.00
	7	1	67	13	0.01	0.59	3.19	8	0.09
	8	11	114	5	0.11	1.00	1.23	244	2.85
	9	246	76	12	2.40	0.67	2.94	607	7.10
	10	1052	240	91	10.26	2.11	22.30	1826	21.36
	11	433	494	37	4.22	4.34	9.07	1473	17.23
	12	452	1214	60	4.41	10.67	14.71	501	5.86
	13	1857	1713	66	18.11	15.05	16.18	734	8.59
	14	2809	2278	64	27.39	20.02	15.69	1042	12.19
	15	1386	2595	26	13.52	22.80	6.37	836	9.78
	16	259	1599	20	2.53	14.05	4.90	567	6.63
	17	327	535	7	3.19	4.70	1.72	475	5.56
	18	206	162	3	2.01	1.42	0.74	149	1.74
	19	223	98	1	2.17	0.86	0.25	58	0.68
	20	281	72		2.74	0.63		21	0.25
	21	238	54		2.32	0.47		2	0.02
	22	214	31		2.09	0.27		1	0.01
	23	120	11		1.17	0.10			0.00
	24	80	5		0.78	0.04		1	0.01
	25	34	1		0.33	0.01		1	0.01
	26	15	5		0.15	0.04		1	0.01
	27	6	3		0.06	0.03			0.00
	28	4	1		0.04	0.01			0.00
	29		2			0.02		1	0.01
	30		1			0.01			0.00
	31		2			0.02			0.00
	32		2			0.02			0.00
	33		3			0.03			0.00
	34		1			0.01			0.00
	35		1			0.01			0.00
	36								0.00
	37							1	0.01
Total		10254	11381	408	100	100	100	8549	100

Table 7. Length distribution (sampled number of fish) of Greenland halibut in 2009 Estonian fisheries in NAFO area. 0-female, 1-male, ind-unsexed.

LG	2009 GHJ										
	3L				3M				3N		
	0	1	ind	Total	0	1	ind	Total	0	1	Total
32	0	1	0	1	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0
35	0	1	0	1	0	0	0	0	0	0	0
36	2	2	0	4	0	0	0	0	0	0	0
37	4	1	0	5	0	0	0	0	0	0	0
38	7	5	2	14	0	0	0	0	0	0	0
39	10	5	2	17	2	0	1	3	4	0	4
40	17	18	3	38	0	1	0	1	2	3	5
41	28	25	4	57	0	2	1	3	3	2	5
42	20	44	10	74	2	2	0	4	1	6	7
43	51	30	14	95	0	3	2	5	3	1	4
44	45	45	19	109	3	1	0	4	0	1	1
45	44	45	14	103	1	3	3	7	4	3	7
46	48	53	21	122	5	1	4	10	3	5	8
47	69	79	29	177	5	4	8	17	3	2	5
48	52	66	27	145	7	2	3	12	2	4	6
49	52	61	15	128	3	3	1	7	2	2	4
50	48	52	16	116	8	1	2	11	0	1	1
51	43	54	17	114	4	12	7	23	2	0	2
52	57	39	18	114	5	5	5	15	1	1	2
53	33	28	11	72	2	6	0	8	1	2	3
54	35	21	6	62	2	3	1	6	2	3	5
55	14	9	6	29	3	3	1	7	3	0	3
56	12	7	2	21	2	0	0	2	0	0	0
57	7	4	1	12	0	1	0	1	0	0	0
58	5	2	1	8	0	0	0	0	0	0	0
59	4	0	1	5	0	0	0	0	0	0	0
60	2	0	1	3	1	0	1	2	0	0	0
61	1	1	0	2	1	0	0	1	0	0	0
62	4	0	0	4	0	0	0	0	1	0	1
63	1	0	0	1	1	0	0	1	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0
66	1	0	0	1	0	0	0	0	0	0	0
67	0	0	0	0	1	0	0	1	0	0	0
Total	716	698	240	1654	58	53	40	151	37	36	73

Table 8. Length distribution (sampled number of fish) of redfish in 2009 Estonian fisheries in NAFO area. 0-female, 1-male, ind-unsexed.

LG	2009 RED											
	3L				3M				3O			
	0	1	ind	Total	0	1	ind	Total	0	1	ind	Total
14	0	0	0	0	0	1	0	1	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	2	2
17	0	0	0	0	0	0	0	0	0	0	1	1
18	0	0	0	0	1	0	1	2	0	0	1	1
19	0	0	0	0	2	4	5	11	1	1	0	2
20	0	0	0	0	25	19	16	60	2	0	1	3
21	0	1	0	1	38	38	6	82	1	0	0	1
22	0	1	0	1	59	59	0	118	0	1	0	1
23	2	3	0	5	65	61	0	126	0	0	0	0
24	3	1	0	4	67	70	0	137	1	1	0	2
25	2	2	0	4	55	49	0	104	0	1	0	1
26	1	1	0	2	51	43	0	94	0	0	0	0
27	0	1	0	1	32	44	0	76	0	0	0	0
28	2	1	0	3	37	19	0	56	0	0	0	0
29	3	3	0	6	27	24	0	51	0	0	0	0
30	1	3	0	4	18	14	0	32	0	0	0	0
31	1	4	0	5	18	8	0	26	0	0	0	0
32	2	2	0	4	12	5	0	17	0	0	0	0
33	4	4	0	8	6	3	0	9	1	0	0	1
34	4	3	0	7	2	2	0	4	0	0	0	0
35	2	4	0	6	0	0	0	0	0	0	0	0
36	2	2	0	4	1	0	0	1	0	0	0	0
37	1	0	0	1	2	0	0	2	0	0	0	0
38	0	0	0	0	1	0	0	1	0	0	0	0
39	0	0	0	0	1	1	0	2	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0
43	2	0	0	2	1	0	0	1	0	0	0	0
44	3	0	0	3	0	0	0	0	0	0	0	0
45	2	1	0	3	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0
47	2	0	0	2	0	0	0	0	0	0	0	0
48	1	0	0	1	0	0	0	0	0	0	0	0
Total	40	37	0	77	521	464	28	1013	6	4	5	15

Table 9. Length distribution (sampled number of fish) of Greenland halibut in 2010 Estonian fisheries in NAFO area. 0-female, 1-male, ind-unsexed.

LG	2010 GHL								58	33	5	38	6	1	7	
	3L				3M											
	0	1	ind	Total	0	1	ind	Total								
5				0	1			1	59	24	4	28	3		3	
30	1			1				0	60	34	2	36	2		2	
31	4	1		5				0	61	18	1	19	2	1	3	
32	1			1				0	62	14		14	3	2	5	
33	5	1		6				0	63	17		17			0	
34	3	2		5				0	64	14	1	15	1	1	2	
35		10		10				0	65	9		9		1	1	
36	9	16		25	1	1		2	66	7		7	1		1	
37	34	16		50		1		1	67	5		5			0	
38	33	27	1	61	4			4	68	4		4	1		1	
39	39	41		80	1	2		3	69	4		4			0	
40	46	44	6	96	4	4	1	9	70	3		3			0	
41	61	47	6	114	1	2	1	4	71	3		3			0	
42	61	46	7	114	3	15		18	72	1		1			0	
43	66	69	3	138	5	10		15	73	2		2			0	
44	86	84	1	171	9	9		18	74	1		1	2		2	
45	106	78		184	14	12		26	75	1		1			0	
46	103	94		197	10	11		21	76	1		1			0	
47	123	103		226	18	15		33	77			0			0	
48	139	88		227	18	14		32	78	1		1			0	
49	125	74		199	10	11		21	79	2		2			0	
50	118	48		166	11	12		23	80	1		1			0	
51	124	42		166	13	4		17	81			0			0	
52	86	38		124	9	1		10	82			0			0	
53	77	20		97	11	4		15	83	1		1			0	
54	66	21		87	13	6		19	84			0			0	
55	74	11		85	10	3		13	85			0			0	
56	43	8		51	2	5		7	86			0			0	
57	47	10		57	3	5		8	87			0			0	
									88	1		1			0	
Total									1881	1052	24	2957	192	153	2	347

Table 10. Length distribution (sampled number of fish) of redfish in 2010 Estonian fisheries in NAFO area. 0-female, 1-male, ind-unsexed.

LG	2010 RED										
	3M				3N			3O			
	0	1	ind	Total	0	1	Total	0	1	ind	Total
14			1	1			0				0
15				0			0				0
16				0			0				0
17				0			0				0
18		1		1			0				0
19		2	7	9			0		1		1
20	4	8	16	28	1	2	3		1		1
21	9	17	17	43	3		3	1	3		4
22	18	29	6	53	2	3	5		5		5
23	21	44	8	73	4	4	8		6		6
24	26	43	13	82	5	8	13	3	11		14
25	44	55	14	113	3	12	15	6	13		19
26	47	63	10	120	13	17	30	14	15		29
27	52	46	8	106	12	13	25	22	19		41
28	52	39	9	100	19	5	24	15	12		27
29	37	44	4	85	14	4	18	12	7		19
30	52	41	2	95	12	4	16	6	3		9
31	63	30	3	96	10	3	13	6	4		10
32	38	31	3	72	1		1				0
33	37	42	3	82	4	1	5	3	1		4
34	24	37		61	1	1	2	3			3
35	23	31		54			0				0
36	35	23		58	1		1				0
37	18	7		25	2		2				0
38	17	6		23	1		1				0
39	12	7		19			0				0
40	14	9		23			0				0
41	12	4		16	1		1				0
42	8	1		9			0				0
43	3	1		4			0				0
44	5			5	1		1				0
45	3	2		5			0				0
46	1			1			0				0
47	1			1			0				0
48	2			2			0				0
49				0	1		1				0
Total	678	663	124	1465	111	77	188	91	101	0	192

Figure 1. Length distribution of Greenland halibut in Div 3L in 2009. n=1654

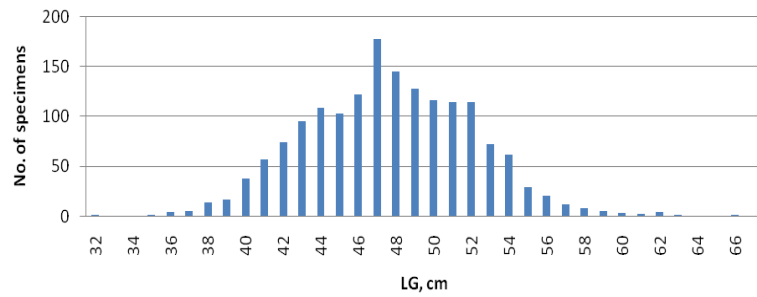


Figure 3. Length distribution of Greenland halibut in Div 3M in 2009. n=151

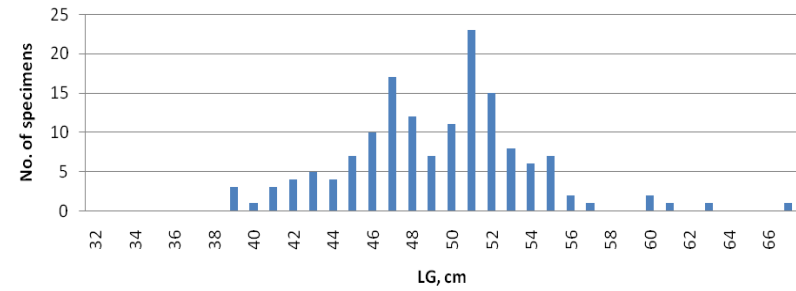


Figure 2. Length distribution of Greenland halibut in Div 3L in 2010. n=2957

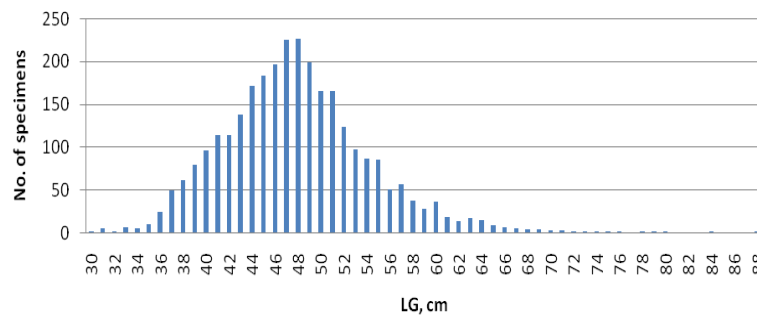


Figure 4. Length distribution of Greenland halibut in Div 3M in 2010. n=347

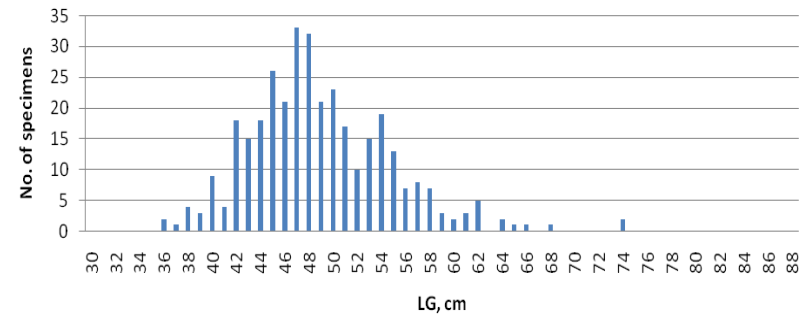


Figure 5. Length distribution of Greenland halibut in Div 3N in 2009. n=73

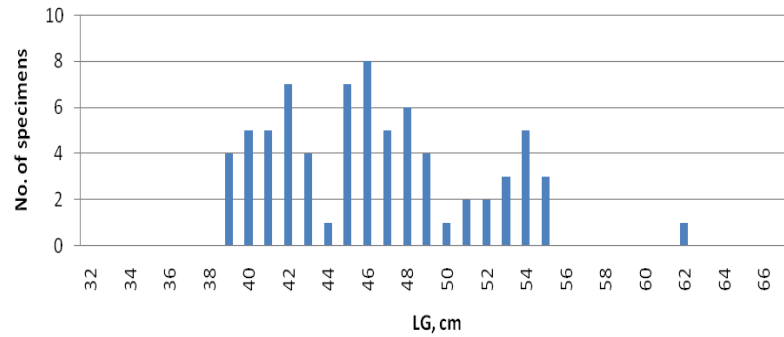


Figure 7. Length distribution of redfish in Div 3M in 2009. n=1013

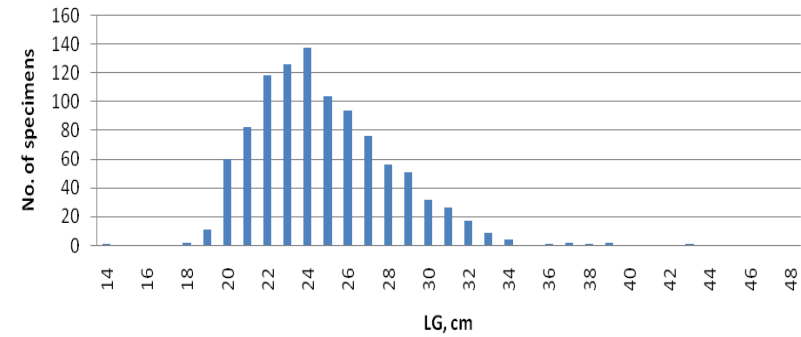


Figure 6. Length distribution of redfish in Div 3L in 2009. n=77

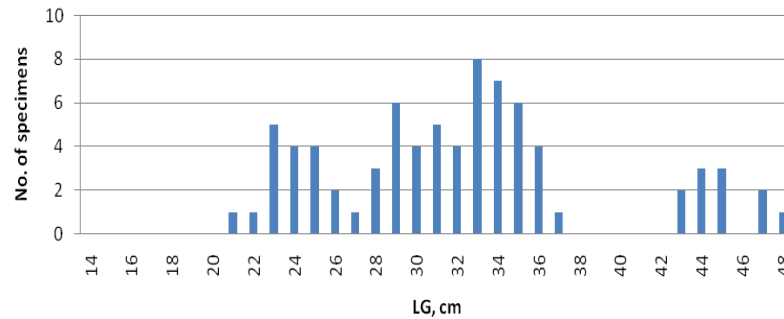


Figure 8. Length distribution of redfish in Div 3M in 2010. n=1465

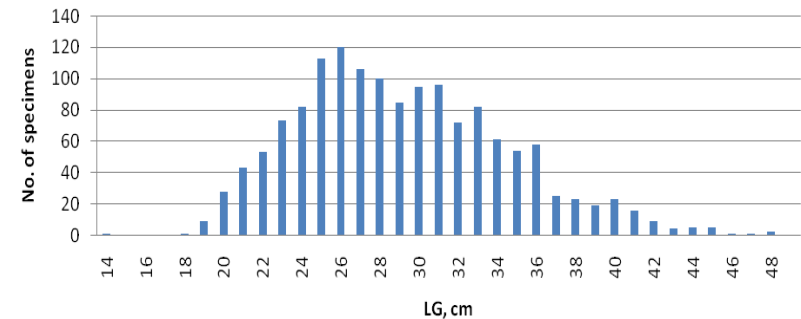


Figure 9. Length distribution of redfish in Div 3N in 2010. n=188

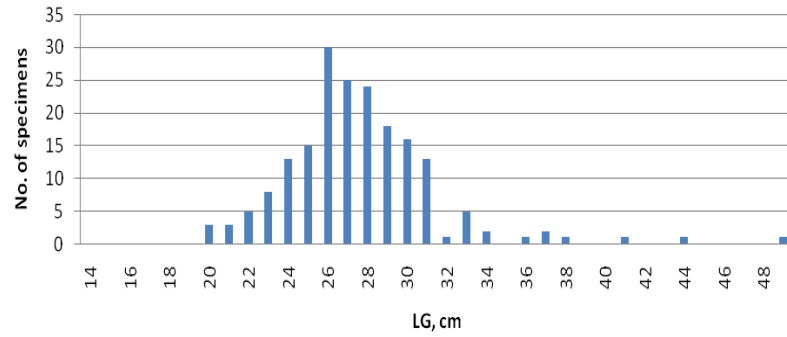


Figure 10. Length distribution of redfish in Div 30 in 2009. n=15

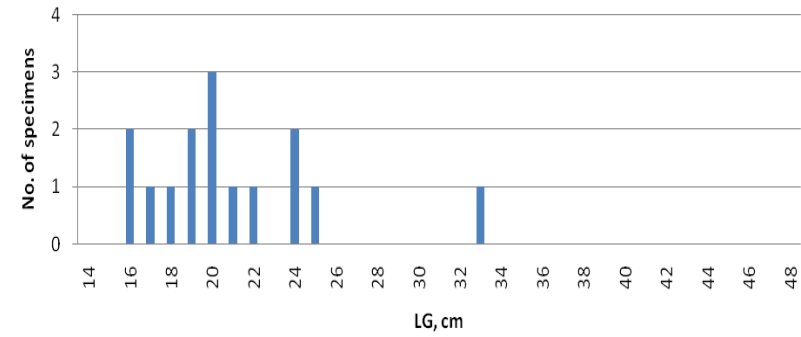


Figure 11. Length distribution of redfish in Div 30 in 2010. n=192

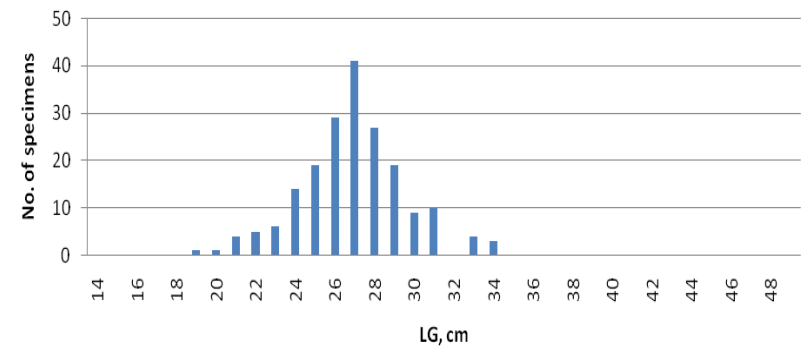


Figure 12. Redfish bycatch length distribution (% of total sampled specimens) in shrimp fishery in Div 3M in 2007-2009.

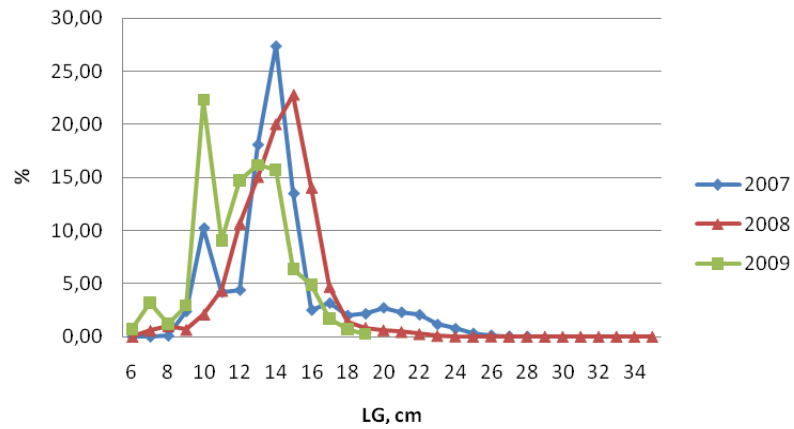


Figure 13. Redfish bycatch length distribution (% of total sampled specimens) in shrimp fishery in Div 3L in 2010.

