Vedlegg 11

For informasjon om rapporten, se vedlegg 11 til protokollen fra den 35. sesjon i Den blandete norsk-russiske fiskerikommisjon;

Protocol

of the second meeting of the
WORKING GROUP ON ELABORATION OF PROPOSAL ON JOINT MANAGEMENT MEASURES FOR GREENLAND HALIBUT
Kirkenes, 4. – 6. October 2006

According to the protocol of the 34. session of the Joint Norwegian-Russian Fisheries Commission (JNRFC), item 8.1, and the protocol of the Norwegian-Russian Scientist Meeting (NRSM) in March 2006, item 2e, delegations from Russia and Norway forming the Working Group on elaboration of proposal on joint management measures for Greenland halibut (hereafter referred to as the WG) met in Kirkenes from the 4th to the 6th of October. The members of the delegations are listed in Appendix 1. This was the second meeting in the WG, the first was held in Copenhagen at 28th of April 2006.

After an introductory session with pieces of practical information and presentation of the delegation members, the following agenda was adopted:

Agenda:

1 Discussion on how the mandate is to be understood, time schedule for the work etc.
2 Agreement on the main principles of work, what kind of information that will be considered, what the final product will look like
3 Agreement of what kind of information to report to the 35. session of the Joint Norwegian-Russian Fisheries Commission (JNRFC)
4 Presentation of the various sources of information brought to the WG by members, and discussion of their implication
5 Preparation of protocol
6 Discussion of further plans for the WG
7 Closing of the meeting and signing of the protocol

Ref. Item 1 on the agenda, the parties exchanged points of view on the mandate given by JNRFC and further elaborated by the NRSM (Appendix 2). The agreement on the establishment of the WG and its tasks are stated in the protocol of the 34. session of the NRFC. Under item 8.1 it is said: "The parties agreed to establish a working group to collate information on the geographic distribution of the Greenland halibut stock, and on the catch history and scientific research on the stock, with aim to formulate a proposal for joint regulation measures. The working group is to report to the annual meetings of the Joint Norwegian-Russian Fisheries Commission". This mandate was further elaborated by NRSM and specified in three points:

1. Present data on the geographical distribution of Greenland Halibut in relevant exclusive economical zones and international waters. All relevant data from fisheries and scientific surveys should be considered. If possible the considerations of possible influence from climate variations should be taken into account.

2. Tabulate catches, total and divided by country, distributed by ICES areas I, IIa and IIb.

3. Tabulate and document the extent of historic research of the stock.

Both parties acknowledged the fact that these three types of information normally used for dividing transboundary stocks between relevant zones, and recognized that the WG was not asked to draw any conclusions about division of the stock based on these types of information. However, the members shared the view that the report from the WG meeting should contain comments as to the strengths and weaknesses of the various elements of the information and also indicate how the pieces of information could be weighted when the conclusions are to be drawn by managers.

It was also discussed what time schedule the WG should work according to, and how far it would be possible to come with the work during the present meeting. It was agreed that results on zonal attachment should be given during the present meeting, but that the conclusions reached should be considered tentative, since they are based on a limited amount of data.

The WG further discussed how far back in time catch statistics would be available, and how it should be further divided by areas, countries etc. The members recognized a dilemma here; the WG is asked to consider "all available data", while it is known that the further back one goes, the less reliable the catch statistics will be. It was agreed to evaluate the total amount of catch statistics that was brought to the WG, and then to comment upon the quality of different time periods and advice on what periods should be given more weight when considering its usefulness for TAC division purposes.

According to the mandate the catches are listed by countries and by ICES areas I, IIa and IIb. The data on zonal attachment is presented according to the relevant zones in the area, i.e. NEEZ, REEZ, International waters ("The loophole"), the "Grey zone", and the fishery protection zone around Svalbard (the Spitsbergen archipelago).

It was also discussed how the last point in the mandate, to "Tabulate and document the extent of historic research of the stock" should be treated. It was agreed to make one table with general information on research activities and another with more detailed biological information on Greenland halibut collected in scientific cruises.

Ref. item 2 and 3 on the agenda, the WG agreed that it was possible to report practically all information on the three mandate points discussed above, to the 35. session of the JNRFC. It was decided to present data relevant for the various topics together with comments on the data quality. It was further decided to put a summary of the relevant information up front in the protocol, but keeping all text, tables and figures in the body of the protocol (except the Table given in the Appendix 3). The WG did not consider it a part of the present work to give specific advice on how the various data sources might be used to draw conclusions about joint regulation measures.

Ref. item 4 on the agenda, both parties presented the information brought to the group, and formed subgroups to elaborate the different types of information. The summary of the work is given below, and further down in the document the total material is given.

Summary of information about stock status, biology, distribution, catch history and research activities

Stock status and biology of the North East Arctic Greenland Halibut (NEAGH)

Based on the material from several decades of research on the stock, and in particular from the last few years of intensified studies under the joint research program, it is concluded that the NEAGH is a self-contained stock, which predominantly is distributed in the Barents Sea and adjacent areas to the west and north. From the spawning areas along the western continental slope of the area, the larvae are transported north- and eastwards to nursery areas, which are mainly found between Svalbard and Franz Josef Land. As the young grow older, they gradually migrate south- and westwards.

Distribution

During 2004 and 2005, an extensive mapping of the distribution areas of NEAGH was made, during collaborative surveys. The results of this mapping on various zones of the area, are given

in Table 2. It is noted, that one cannot be sure that these years are representative for a typical situation, since climatic shifts and state of the stock are likely to affect the distribution pattern. Data from other periods are presented to shed light on possible effects of climate and variations of stock size. The group identified the most important areas of research for improving estimates of relative abundance over the whole distribution area.

The working group agreed that the combined data collected with Alfredo and Campelen trawls from 2004 and 2005 represents the best total coverage of the stock. However, the coverage area in 2005 was slightly less than that in 2004 and both years were characterized by incomplete coverage of the whole distribution area (Fig. 6).

The swept area estimates from surveys in 2004 and 2005 shows that approx. 53-70 % of the biomass is found in the NEEZ, 5-6 % in REEZ and 22-36% in the fishery protection zone around Svalbard (the Spitsbergen archipelago). In terms of numbers the percentage in these zones was 15-31%, 31-36 % and 36-47% respectively. In all other areas combined, estimates were 2-5% by weight and 1-3% by numbers (for more details se Table 2).

Catch statistics
The period from 1973 – 1991 is characterized by relatively high quality of the data and is not hampered by the fishing moratorium.

Research activities
Both parties documented a substantial amount of research activities, which are reflected in Table 6 and Appendix 3.

1. Geographical distribution

1.1 Life cycle, reproductive biology and migration of the Greenland halibut

Genetical analyses did not reveal any genetic difference between specimens sampled from the Halten Bank to north of the Spitsbergen archipelago, but these samples were significantly different from specimens sampled at Faroe Island, Greenland and in Canadian waters (Knutsen *et al., in subm.*). Therefore Northeast Arctic Greenland halibut stock (NEAGH) seems to be a self-contained unit with limited exchange with other areas.

Spawning of the Northeast Arctic Greenland halibut occurs in autumn and winter. The main spawning grounds are located in the deep waters (500-800 m) of the continental slope between 70° and 75°N (Figure 1) (Albert et al., 2001; Nedreaas, Smirnov, 2004).

Distribution and density of the spawning concentrations are variable and depend chiefly on the number of spawners, structure of the mature part of the population as well as on oceanographic conditions in every specific year. The majority of the first maturing Greenland halibut individuals approach the area of reproduction from the north and, if the conditions are favourable, spawn mostly in its northern part (Subarea IIb), while large repeat spawners prefer more southerly areas (Subarea IIa) (Smirnov, 2006).
According to the classification of fish by the type of egg laying Greenland halibut belongs to pelagophilic species. During egg and larvae drift, the first settling of individuals from newly appeared yearclasses takes place. Direction of ichthyoplankton drift and posterior distribution of juveniles is much dependent on localization of the parental stock (Ådlandsvik et al., 2004). Water circulation in the spawning areas of Greenland halibut is characterized by the fact that southern parts of the main spawning grounds located between 70° and 73°N are situated in the

zone separating the Norwegian and North Cape Currents. The Norwegian Current carries its waters along the continental slope towards Spitsbergen stretching its effect over the areas north of 73°N. The North Cape Current flows to the Barents Sea. Therefore, the more females of Greenland halibut spawn south of 73°N, the higher the probability of mass juveniles penetration to the Barents Sea shelf. Prerequisites for the drift of juveniles to the southern Barents Sea are increased abundance of the spawning stock, high percentage of older age groups in the spawning stock and lowered water temperature in the area of the continental slope.

Ichthyoplankton research and data from international surveys for 0-group of commercial species indicated that until the end of 1980's (in particular in 1979, 1980, 1983 and especially in 1987) a recurrent drift of large number of juvenile Greenland halibut to the eastern Barents Sea was observed. In 1990's, because of low abundance of spawners against the background of high water temperature on the spawning grounds, the northern component of the drift was predominant (to Subarea IIb) (Smirnov, 2006).

At the end of summer – beginning of autumn, juvenile Greenland halibut being 7 cm long start to switch to the bottom way of living. During the long (8-10 months) period of drift, juveniles cover great distances and their settling to the bottom occurs over a wide area in zones the most distant from the spawning grounds and being the margins of the population area.

In the Barents Sea and adjacent waters, a few main areas where bottom juveniles of Greenland halibut are concentrated were identified. The West Spitsbergen Current brings juveniles to the fjords of the West and North Spitsbergen and further to the northeast along the continental slope. With the branches of the current via straits between the Spitsbergen and Franz Josef Land juveniles are brought to the northern areas of the Barents Sea shelf. The Northern Branch of the North Cape Current transports juveniles to the northern part of the Hope Island Deep and adjacent areas of the Central Bank and Hope Island area. The Main Branch of the North Cape Current and further the Murman Current deliver ichthyoplankton to the slopes of Central Basin (Nizovtsev, 1989).

The first 3-4 years of life Greenland halibut spend close to the areas of settling, as a rule in shallow waters at the depth of 100-300 m concentrating at the sites with complex bottom topography covered by soft sediments, mainly in the large bottom depressions where to Atlantic waters penetrate (Smirnov et al., 2000). During trawl surveys in 1996-2004, the densest concentrations of bottom juveniles of Greenland halibut were found in the areas with depths more than 200 m from the Erik Eriksen Strait (between the King Carl Land and Northeastern Land) to the Franz-Victoria Trough (between the Franz Josef Land and Victoria Land) (Høines and Smirnov, 2002).

With growth and maturation, the Greenland halibut gradually shift towards spawning grounds and inhabit greater depths (Figure 2). Having reached maturity and spawned for the first time, individuals start seasonal migration between the areas of reproduction and feeding (Nizovtsev, 1989). Throughout the year the species is therefore caught as by-catch in Russian cod fishery over a large area (Figure 3).

From the above it is seen that Greenland halibut is distributed over a vast area of the Barents Sea and adjacent waters, however, by the main role of different areas played in maintaining vitality of the population they can be differentiated as follows. The Norwegian Sea (Subarea IIa) is the main area of spawning and feeding of individuals from older age groups. The Bear Island – Spitbergen area (Subarea IIb) is the main area for feeding of juveniles and spawning of the first maturing individuals. The Barents Sea (Subarea I) is the feeding area for both juveniles (northern and central parts) and adults (central and southern parts).

1.2 Greenland halibut distribution from survey data

Our results clearly show that the vast majority of adult Northeast Arctic Greenland halibut throughout the year are distributed along the continental slope between the Norwegian mainland and the Spitsbergen archipelago, while further eastwards in the Barents Sea its distribution remains severely limited. Juveniles were mainly found north and east of the Spitsbergen archipelago to White Island and Franz Josef's Land, thus firmly establishing these areas as nursery grounds for the species. Spawning grounds were confirmed located largely on the upper slope areas north and south of Bear Island.

Data from Russian and Norwegian surveys in the northern Barents Sea (north and east of the Spitsbergen archipelago and in the area of the Franz Josef Land), which have become joint surveys since 2000, showed that a considerable proportion of juveniles (28-56%) settled in the area of the REEZ (Table 1). Figure 4 shows the distribution of catch rates of Greenland halibut from joint Russian-Norwegian ecosystem survey in 2006.

Russian stratified surveys for Greenland halibut having been conducted since 1984 cover the area of about 140 thousand square miles from the Novaya Zemlya in the east to the continental slope (depth of 900 m) in the west. Despite the fact that these surveys are carried out during pre-spawning and spawning period (October-December) when Greenland halibut migrate to the west and concentrate on the continental slope, from 11 to 43% (about 20% on the average) of the Greenland halibut fishable stock (fish longer 30 cm) abundance were distributed in the ICES Subarea I (east of 30°E) (Figure 5) (Smirnov, 2002).

In August-September 2004 and 2005 Russian and Norwegian research vessels covered most of the Barents Sea and Spitsbergen area by Campelen-1800 trawl, and in the same period Norwegian vessels covered the deeper areas from 62 – 80 N (in 2004) and 68 – 80 N (in 2005) by Alfredo-5 trawl. In total this was a coverage, which included most of the distribution area of the Northeast Arctic Greenland halibut stock (Fig. 6). In 2005 also a coverage using the Alfredo-5 trawl in the whole Barents Sea, also included the deeper slope area and the REEZ, was conducted by Norwegian vessels. Patterns of distribution and abundance from these coverages are given in Thangstad *et al.* (in prep). The swept area estimates from surveys in 2004 and 2005 shows that approx. 53-70 % of the biomass is found in the NEEZ, 5-6 % in REEZ and 22-36% in the fishery protection zone around Svalbard (the Spitsbergen archipelago). In terms of numbers the percentage in these zones was 15-31%, 31-36 % and 36-47% respectively. In all other areas combined, estimates were 2-5% by weight and 1-3% by numbers (for more details se Table 2).

There is limited information on seasonal variations in distribution. Due to ice conditions, the young fish areas may only be surveyed during late summer. The main area of adult Greenland halibut was surveyed three times a year from August 2003 until March 2005. Figure 7 shows a concentration in distribution during the spawning season in Nov-Dec, otherwise only minor differences were seen.

Commenting on distribution of Greenland halibut in EEZs it should be emphasized that estimated proportions are imprecise because they are based on the survey data, which always have some uncertainty, and that they will also vary in dependence on environmental conditions and stock dynamics.

Thus, due to peculiarities of distribution, drift of eggs and larvae as well as active migration, the Greenland halibut at different stages of its life and annual cycles forms concentrations in all

economic zones of the Barents Sea (Nedreaas, Smirnov, 2004), that indicates the Greenland halibut to be a transboundary stock.

1.3 Remaining uncertainties of total distribution area

The above description of total distribution of Northeast Arctic Greenland halibut depends largely on results obtained during the last few years. Therefore the results may not be representative of the typical situation. There are still some methodological problems. Some of them may be solved in the course of the new 3-year program, while some will be more difficult to solve. . Below is a list of the most important questions that need to be addressed, together with a brief description of relevant planned research activities.

a. Eastern boundary of juvenile distribution

Figure 6 shows relative high catch rates of Greenland halibut in the area just west of Franz Josefs Land. Little is known about the distribution further east, but Russian surveys from late 1980s found Greenland halibut in the deeper areas also east of the archipelago. Data from the Russian-Norwegian juvenile surveys show that length-groups corresponding to age groups 2-3 have not reached their eastern boundary within the survey area (Eliassen, 2006). The extent of the problem may be difficult to estimate from surveys alone due to the severe ice conditions in these areas. Possible solutions include controlled experiments of abiotic tolerance levels, survey of antifreeze compounds, and calculation of total area exposed to environments within estimated tolerance levels. But, even taking into account possible progress in this field it seems to be difficult to get accurate data, especially when it comes to historic data on eastern boundary of the distribution of Greenland halibut. The reason for this is that it is not possible to observe the distribution of warm waters under the ice coverage where fish distribute.

b. Length-dependent catchability

Both video analyses and trawl experiments with auxiliary bags have shown that the proportion of Greenland halibut that are lost beneath the trawl is higher for the smaller individuals (Albert *et al.* 2003). This may result in underestimation of abundance of juveniles. In addition, the largest individuals are able to avoid the bottom trawl a long distance ahead of the approaching trawl (Albert *et al.* 2006). Both of these effects may be accounted for when calculating survey indices. Preliminary correction equations exist, but further experiments are needed to improve the corrections.

c. Methods of combining data from several sampling trawls

The most complete survey coverage of the stock (Fig 6) depends on combining trawl indices from two different Norwegian bottom trawls. A method for this combination is described in Thangstad *et al*. (*in prep.*) based on a few parallel trawl experiments. To ascertain an accurate combination of different survey series these experiments should be conducted in both juvenile and adult fish areas, and may also include Russian trawl types.

d. Pelagic distribution

Experiments with vertical longlines have shown that adult Greenland halibut may frequently be found pelagically between 300 and 600 m depth from the continental slope and some distance out in the Norwegian Sea (Vollen and Albert, *in prep*). Preliminary analyses of archival tags indicate that this pelagic activity is mainly associated with the continental slope and occupies around 20% of the time (Albert and Vollen, *in prep.*). As more archival tags are recaptured, this estimate will be improved and seasonal patterns may be found.

e. Long-term variations

The distribution of Greenland halibut depends on size of the stock and temperature conditions in the sea. According to Milinsky (1944), in the abnormally warm 1930s when the stock was in good state the Russian catches in the eastern Barents Sea were up to 1400 kg per 1 trawling, which was very high if taken into account the fishing capacities at that period. Therefore, the total distribution area in previous periods and mean long-term perspective is not known, but in the future an attempt may be done to estimate it by combining environmental models with estimates of environmental tolerance of Greenland halibut.

f. Age reading

The problems with age reading of Greenland halibut leads to additional uncertainties in zonal attachment of this species. The existing disagreements in age reading hamper a reliable picture of Greenland halibut distribution by age groups. In 2006 a large effort was started to validate the age reading method.

2. Catch statistics

In the years prior to 1970, the catches of Greenland halibut were not specified by species and countries in the official ICES publications (Bulletin Statistique). However, for instance for Norway, catches of Greenland halibut for several decades before 1970 were specified by species, quantity and area (not ICES-areas) in the official national statistics (published by the Central Bureau of Statistics). For the reasons mentioned the catch statistics compiled and presented at this WG meeting is a combination of official ICES figures, official national figures and figures provided and used by members of the Arctic fisheries working group in ICES.

From the early 1970's and onwards the quality of the data is assumed to be substantially higher than for the preceeding years, while the period after the introduction of the moratorium is characterized by heavy restrictions on fishery effort and catches.

Comments to the quality and sources of statistics:
Before 1970, Norwegian catches are based on official national figures by the Central bureau of statistics. From 1970 and onwards the Norwegian catches are based on official ICES statistics. (Bulletin Statistique)

Data on catches by USSR/Russia in 1946-1963 is based on monograph by G.P. Nizovtsev (1989). The source of data on catches used by Nizovtsev and its reliability is unknown. The availability of catch data for this period is limited and difficult to ascertain. Data on catches by USSR/Russia in 1964 – 1972 is used by ICES for assessment of the Greenland halibut stock and published in the reports of the ICES AFWG.

For the period 1973-2005 the figures for both USSR/Russia and Norway are based on official ICES statistics (Bulletin Statistique/STATLANT database).

Final comment:
The period from 1973 – 1991 is characterized by relatively high quality of the data and is not hampered by the fishing moratorium.

3. Research activities

The participants of the WG presented information on scientific researches and agreed on a unified format for this data.

The participants agreed that regular observations and collection of biological and fishing data began in 1960s and in the previous period investigations of Greenland halibut were occasionally conducted.

The amount of fundamental biological data collected by the scientists from both countries is given in Appendix 3. The whole historic period of researches was divided in several parts according to the main study results of certain biological aspects of Greenland halibut. (Table 6).

A significant progress in biological studies of Greenland halibut was achieved during the work according to 3-year (2002-2004) joint research Russian-Norwegian programme. The intensification of the research in last years was largely caused by allocation of scientific quotas for the programme.

According to the task of the 34th session of JNRFC (item 8.1 in the Protocol), the scientists from Russia and Norway at March meeting in 2006 developed a new 3-year (2007-2009) joint research programme. In the protocol of this meeting (Appendix 4 to the protocol from the 2006 March-meeting) it is stated: "The Russian part informed that in their view, the realization of this research program requires an additional scientific quota of Greenland halibut".

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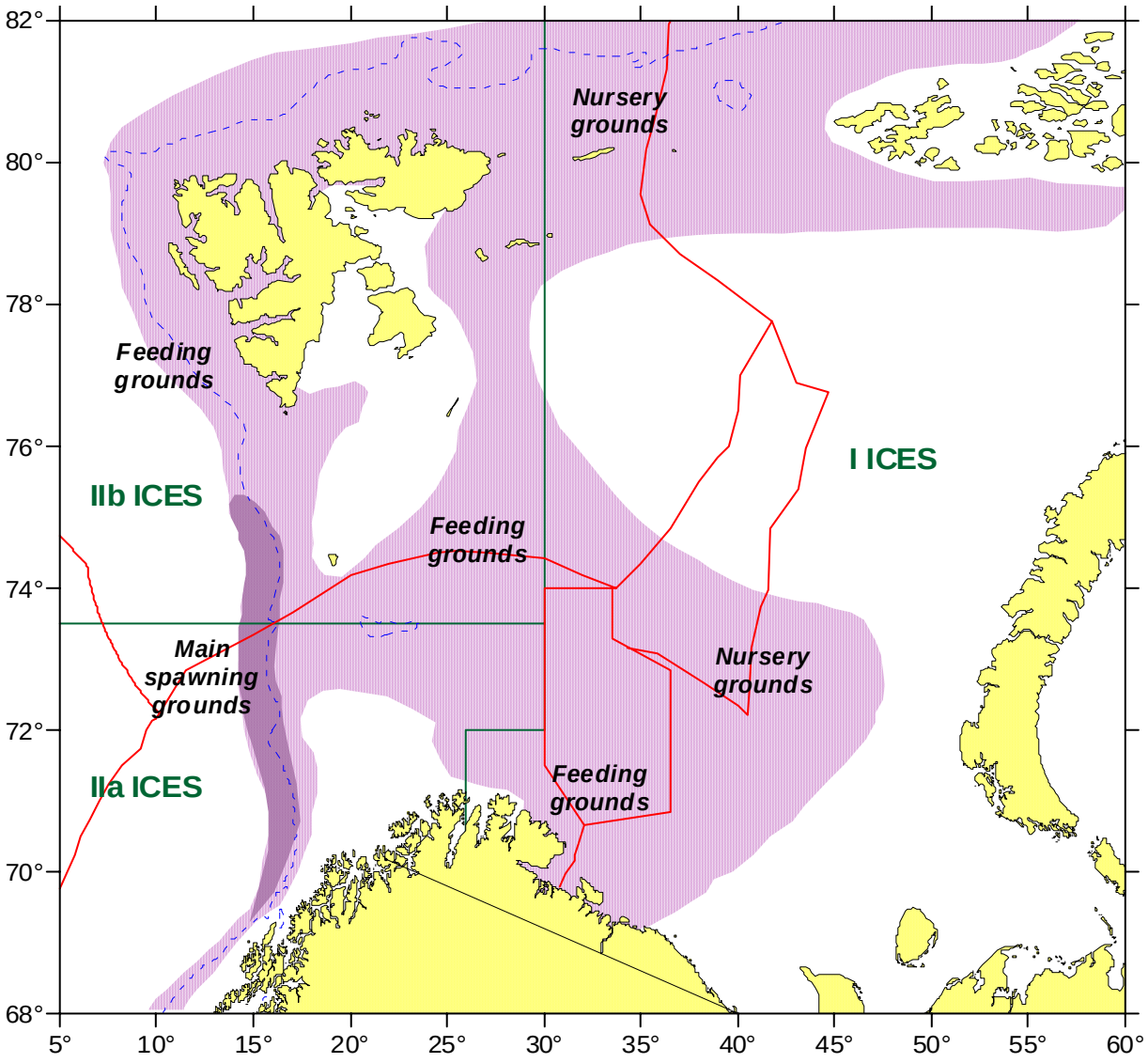

Figure 1. Map of Greenland halibut distribution in the Barents Sea (after Nedreaas & Smirnov 2004)

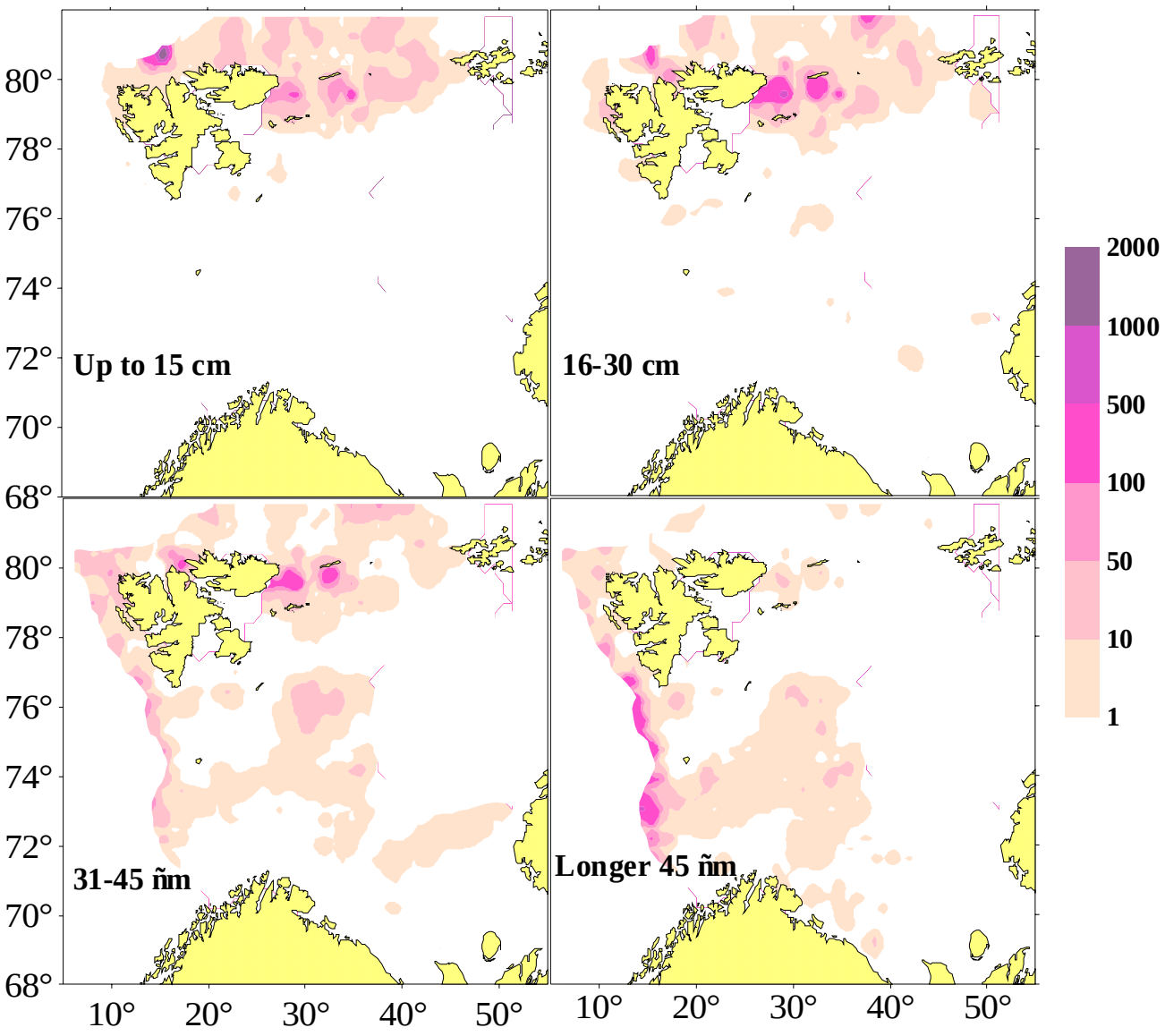

Figure 2. Distribution of catches of Greenland halibut by length in September-December from Russian trawl surveys, individuals/1-hour tow (data combined for 1999-2004)

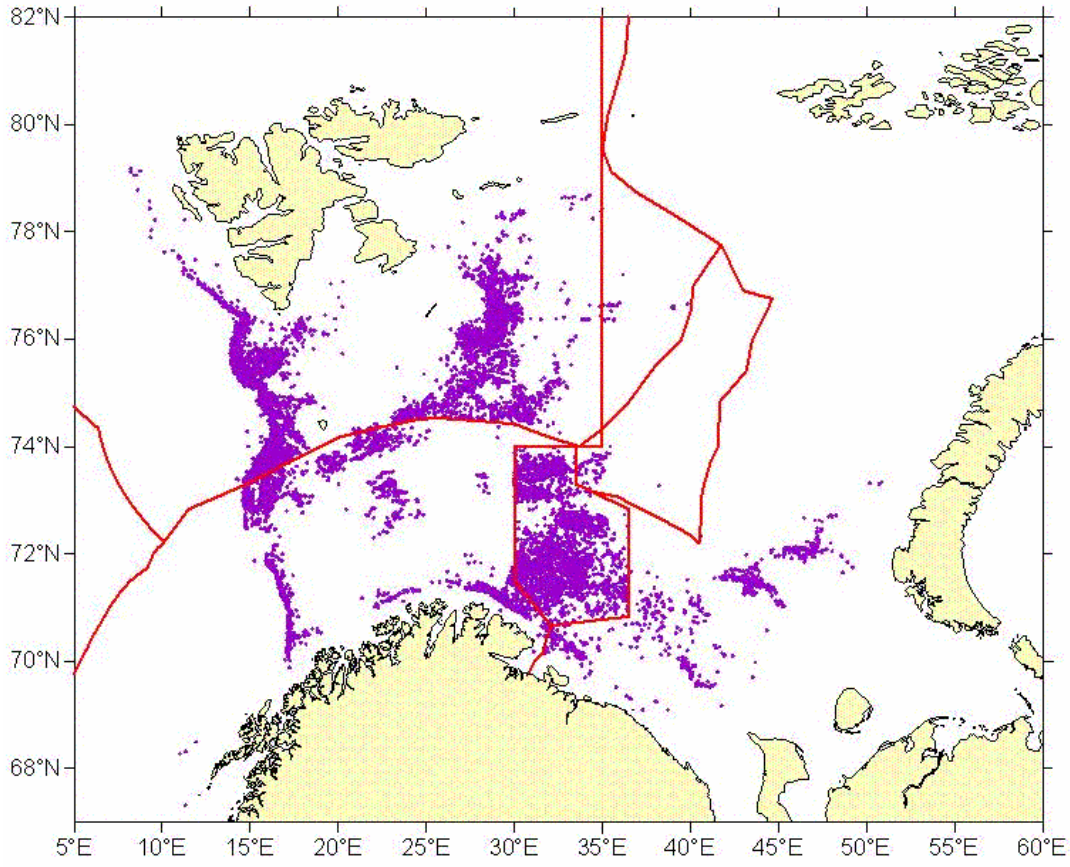

Fig. 3 The occurrence of Greenland halibut in catches of Russian vessels fishing for cod in 2005 (based on daily reports from vessels). This pattern is typical for last 5-7 years.

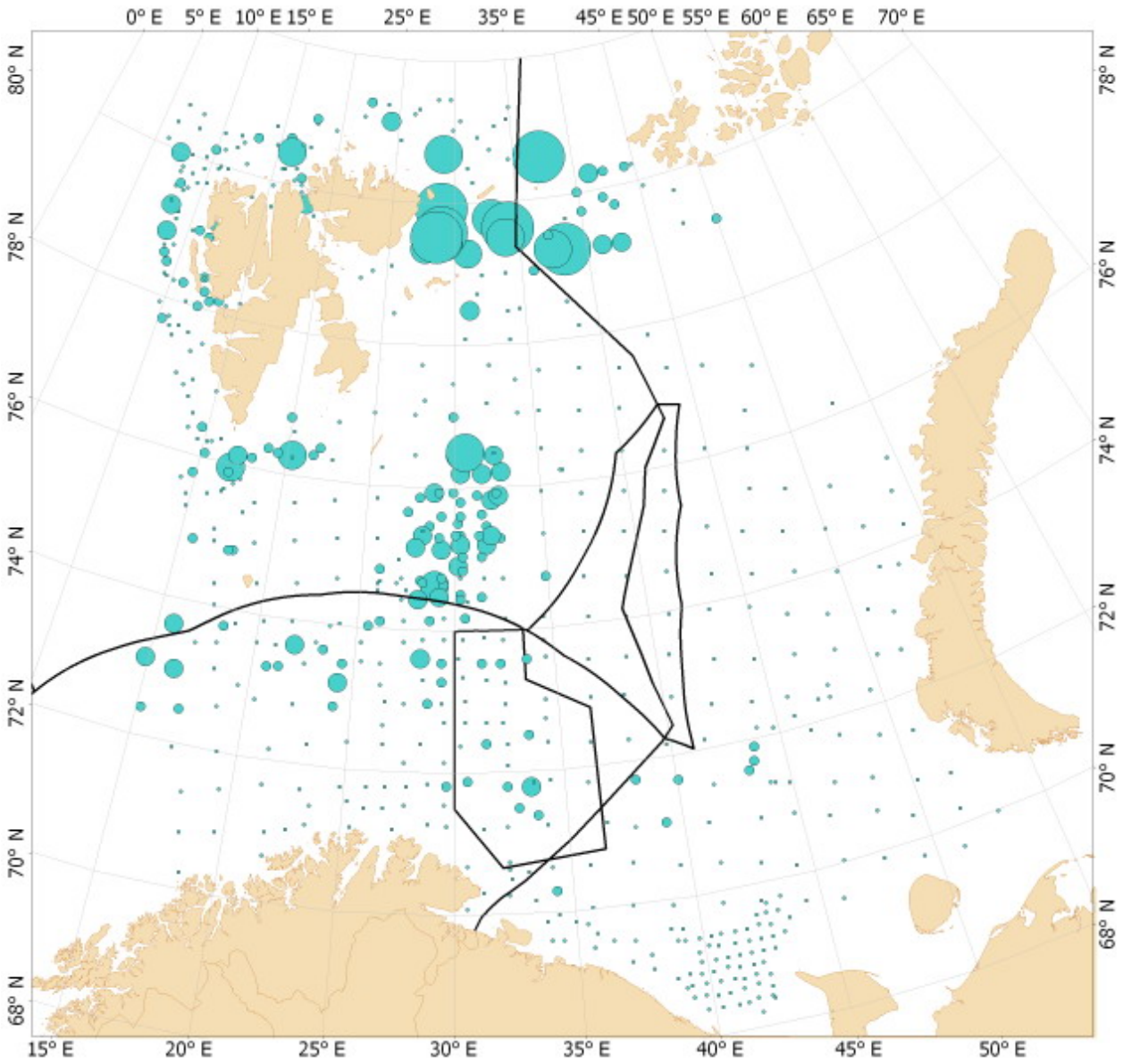

Fig. 4 Catch rates of Greenland halibut (Kg/nm) from joint Russian-Norwegian ecosystem survey in Aug-Sep 2006.

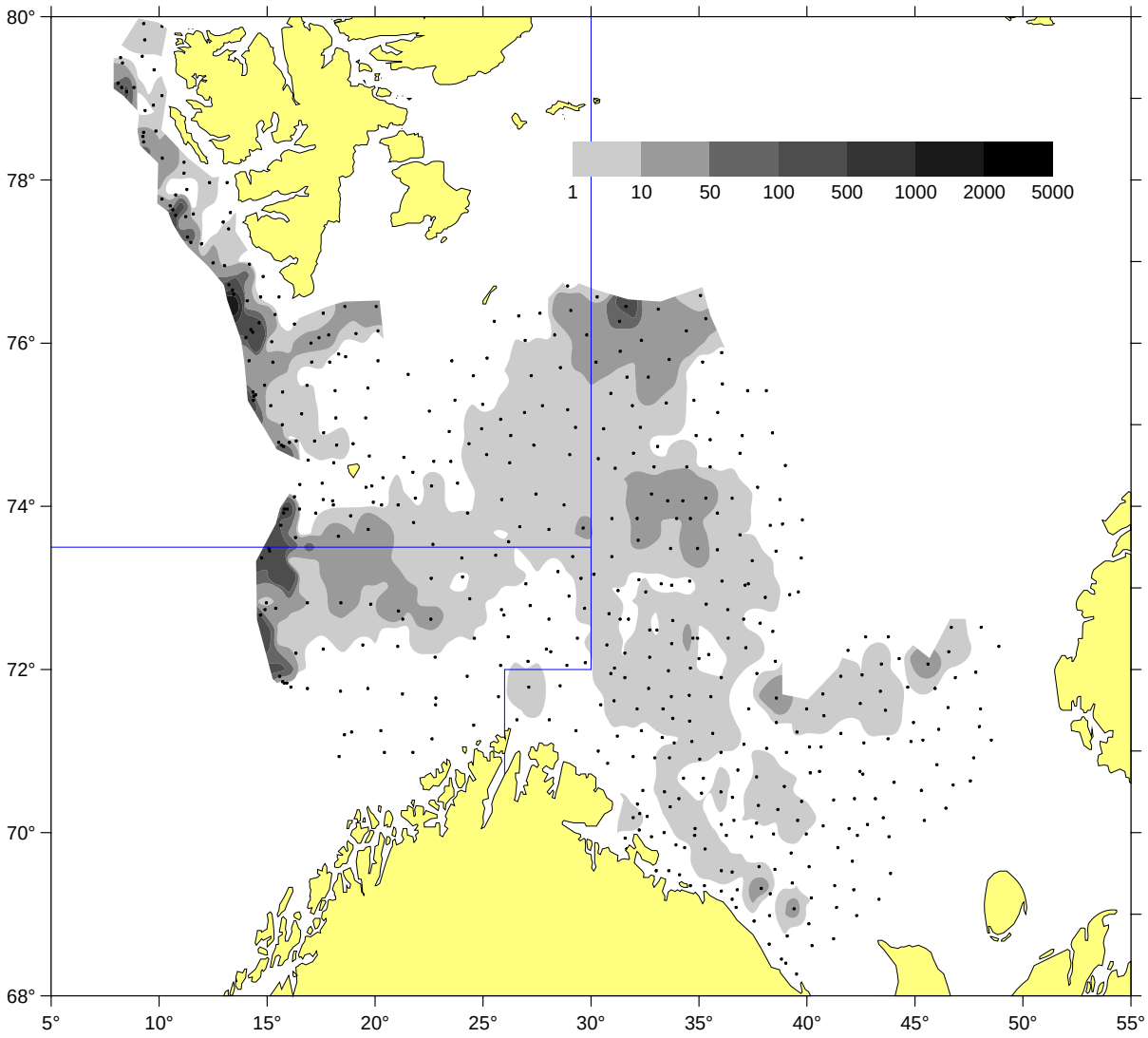

Fig. 5. Distribution of Greenland halibut in October-December from the data of Russian survey 2003, spec./1 hour trawling

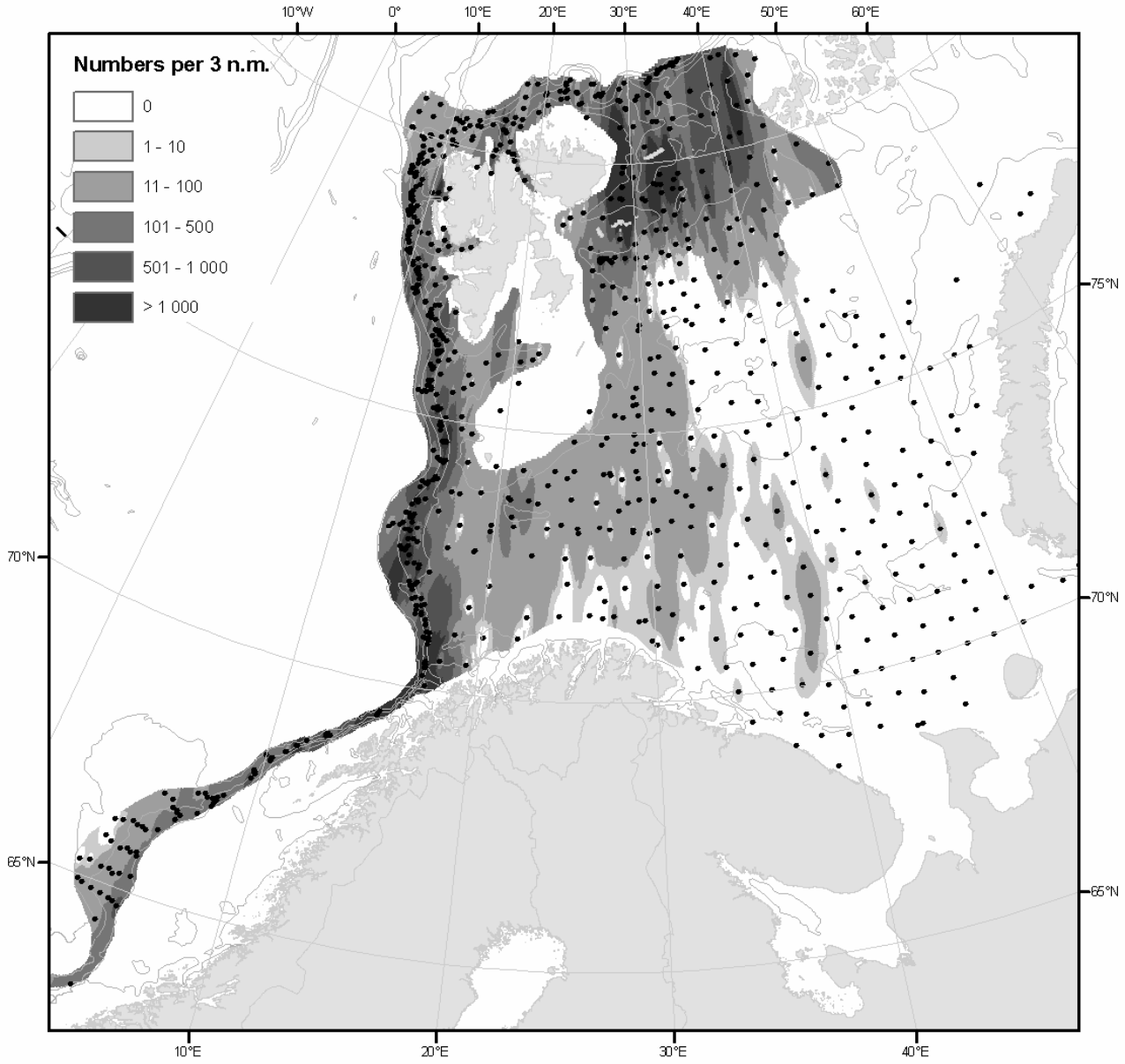

Fig. 6. Total density distribution of Greenland halibut from Russian-Norwegian bottom trawl surveys, August-October 2004. Dots denote sampling stations.

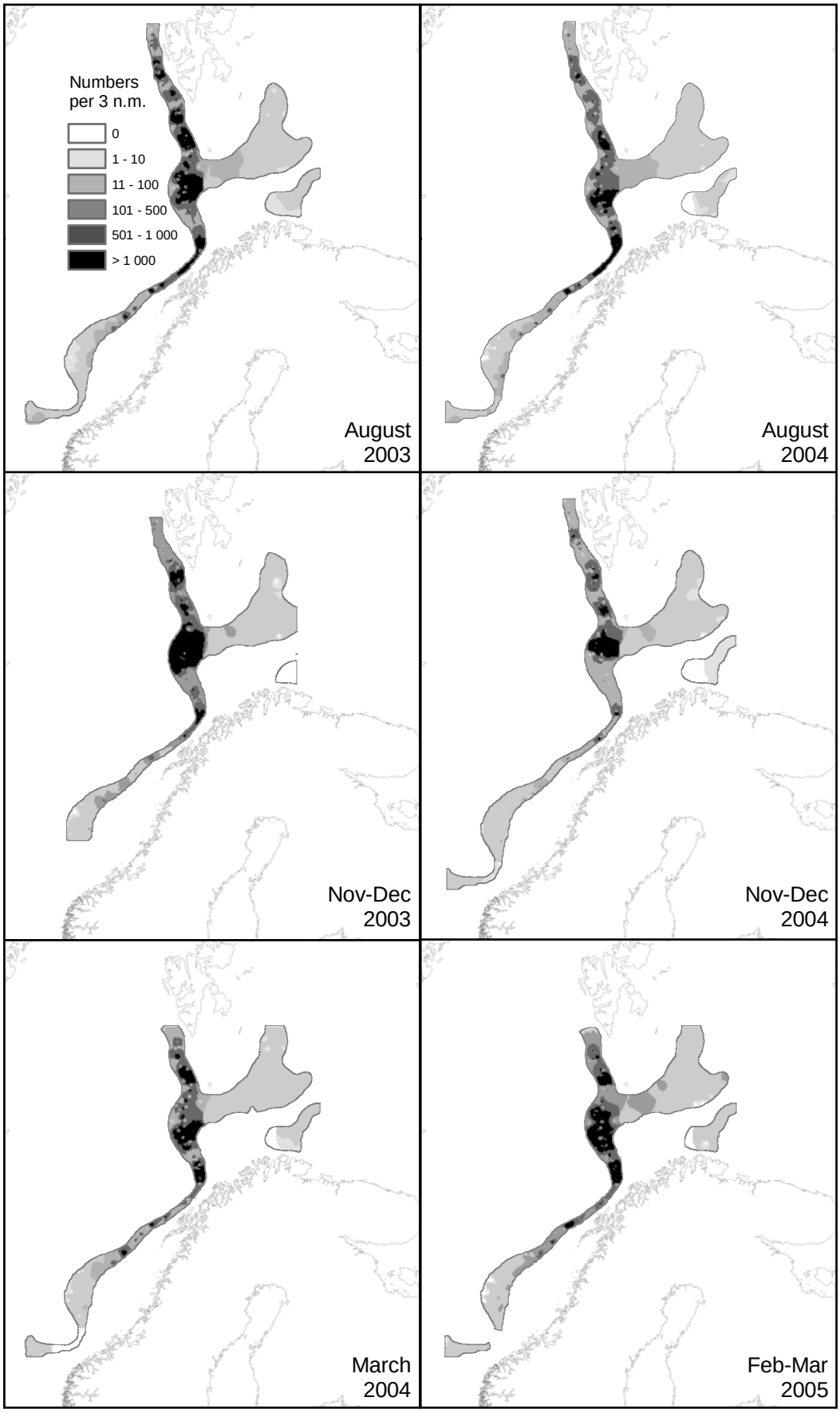

Fig. 7 Total density distribution of adult Greenland halibut from seasonal bottom trawl surveys along the slope 2003-2005. Solid line encircles the survey area.

Table 1. Abundance indices of young Greenland halibut based on the data of trawl surveys northeast of Spitsbergen and in the Franz Josef Land area, thousands specimens

A. Norwegian data (source – AFWG report 2005)

Year	Total	REEZ	% REEZ
1998	64279	20357	32
1999	38140	15651	41
2000*			
2001	92475	42955	46
2002	193641	98211	51
2003*			
2004	166989	57593	34

B. Russian data

Year	Total	REEZ	% REEZ
1999	19316	7105	37
2000*			
2001	45470	25396	56
2002*			
2003*			
2004	129761	66957	52

C. Joint Russian-Norwegian data
(source - IMR/PINRO Joint Report Series)

Year	Total	REEZ	% REEZ
2001	55072	21097	38
2002	108905	29975	28
2003*			
2004	138695	76273	55

* limited area coverage due to hard ice condition

Table 2. Swept area estimates from three surveys covering the total distribution area of the Northeast Arctic Greenland halibut stock.

Biomass

	August 2004 Alfredo & Campelen						August 2005 Alfredo						August 2005 Alfredo & Campelen					
Length	NEZ	SVAL	REZ	INTER	GREY	TOTAL	NEZ	SVAL	REZ	INTER	GREY	TOTAL	NEZ	SVAL	REZ	INTER	GREY	TOTAL
< 10	0	11	0	0	0	12	0	0	0	0	0	0	0	8	1	0	0	8
10-15	0	34	72	0	0	106	0	0	0	0	0	0	0	519	764	0	0	1 283
15-20	0	188	384	0	0	571	0	0	0	0	0	0	1	743	557	0	0	1 300
20-25	0	939	1 880	0	0	2 819	0	199	168	0	0	367	0	403	429	0	0	832
25-30	8	1 436	2 266	0	5	3 715	1	733	1 202	0	0	1 937	9	1 274	2 154	0	0	3 437
30-35	151	1 623	1 141	0	0	2 915	143	2 921	2 518	0	0	5 583	200	5 124	3 885	0	0	9 209
35-40	1 633	4 403	390	281	204	6 910	1 606	7 087	1 270	0	95	10 057	1 457	10 045	1 908	0	104	13 514
40-45	4 140	5 897	408	408	611	11 464	4 260	10 304	529	327	653	16 072	3 934	15 290	1 338	679	856	22 097
45-50	13 643	7 904	726	0	710	22 983	10 402	13 076	476	0	735	24 689	9 630	15 647	1 206	1 013	1 199	28 694
50-55	34 036	6 297	229	0	917	41 479	24 901	8 327	652	67	585	34 532	24 375	10 820	0	1 450	899	37 545
55-60	30 058	3 784	1 566	0	275	35 683	25 242	4 996	244	0	488	30 969	23 970	5 725	0	0	2 142	31 836
60-65	17 939	3 148	465	0	213	21 766	19 343	4 274	87	0	529	24 233	18 966	4 240	0	1 355	389	24 950
65-70	11 231	2 404	0	0	212	13 846	14 580	3 025	98	0	0	17 703	15 028	3 158	0	0	950	19 135
70-75	5 781	919	0	0	20	6 720	8 191	1 199	71	0	0	9 461	8 191	1 334	0	0	0	9 525
75-80	2 675	324	0	0	34	3 033	3 863	480	0	0	0	4 343	3 863	480	0	0	0	4 343
80-85	1 252	169	0	0	0	1 421	2 277	235	0	0	0	2 512	2 277	235	0	0	0	2 512
85-90	249	34	0	0	0	284	796	93	0	0	0	889	796	93	0	0	0	889
> 90						0						0						0
Total (tons)	122 796	39 513	9 527	688	3 202	175 726	115 606	56 948	7 315	394	3 085	183 347	112 695	75 136	12 242	4 497	6 538	211 108
Percentage	69.9	22.5	5.4	0.4	1.8	100.0	63.1	31.1	4.0	0.2	1.7	100.0	53.4	35.6	5.8	2.1	3.1	100.0

Abundance

Length	NEZ	SVAL	REZ	INTER	GREY	TOTAL	NEZ	SVAL	REZ	INTER	GREY	TOTAL	NEZ	SVAL	REZ	INTER	GREY	TOTAL
< 10	0	10161.7	432.8	0	0	10 595	0	0	0	0	0	0	0	6862.5	540.3	0	0	7 403
10-15	0	4 790	10 054	0	0	14 844	0	0	0	0	0	0	0	72 861	107 359	0	0	180 219
15-20	0	7 880	16 134	0	0	24 014	0	0	0	0	0	0	31	31 213	23 389	0	0	54 633
20-25	0	16 012	32 067	0	0	48 079	0	3 397	2 867	0	0	6 264	0	6 874	7 310	0	0	14 184
25-30	70	11 923	18 813	0	40	30 847	9	6 087	9 984	0	0	16 081	77	10 577	17 884	0	0	28 539
30-35	689	7 402	5 202	0	0	13 294	654	13 320	11 484	0	0	25 458	910	23 364	17 718	0	0	41 993
35-40	4 456	12 015	1 063	766	557	18 859	4 383	19 340	3 466	0	258	27 448	3 976	27 414	5 208	0	283	36 880
40-45	7 211	10 271	711	710	1 064	19 968	7 420	17 948	921	569	1 137	27 995	6 852	26 632	2 331	1 183	1 490	38 488
45-50	15 945	9 237	849	0	829	26 860	12 157	15 282	556	0	859	28 855	11 254	18 286	1 410	1 183	1 402	33 535
50-55	27 779	5 139	187	0	749	33 853	20 323	6 796	532	55	478	28 184	19 894	8 831	0	1 183	734	30 642
55-60	17 700	2 228	922	0	162	21 013	14 865	2 942	143	0	287	18 237	14 115	3 371	0	0	1 261	18 748
60-65	7 833	1 375	203	0	93	9 504	8 446	1 866	38	0	231	10 581	8 281	1 851	0	592	170	10 894
65-70	3 721	796	0	0	70	4 587	4 830	1 002	32	0	0	5 865	4 979	1 046	0	0	315	6 339
70-75	1 482	236	0	0	5	1 723	2 100	307	18	0	0	2 426	2 100	342	0	0	0	2 442
75-80	540	65	0	0	7	612	780	97	0	0	0	876	780	97	0	0	0	876
80-85	202	27	0	0	0	229	367	38	0	0	0	405	367	38	0	0	0	405
85-90	33	4	0	0	0	37	104	12	0	0	0	116	104	12	0	0	0	116
> 90	0	0	0	0	0	0	30	9	0	0	0	39	30	9	0	0	0	39
Total	87 660	99 564	86 639	1 476	3 577	278 916	76 468	88 443	30 043	624	3 250	198 828	73 750	239 683	183 148	4 142	5 654	506 377
Percentage	31.4	35.7	31.1	0.5	1.3	100.0	38.5	44.5	15.1	0.3	1.6	100.0	14.6	47.3	36.2	0.8	1.1	100.0

Table 3a. Greenland Halibut. Nominal catch (t) of Greenland Halibut combined. By countries

Year	Norway	Russia	Others	Total
1935	1534	n/a	0	1534
1936	830	n/a	0	830
1937	616	n/a	0	616
1938	329	n/a	0	329
1939	459	n/a	0	459
1940	846	n/a	0	846
1941	1663	n/a	0	1663
1942	955	n/a	0	955
1943	824	n/a	0	824
1944	678	n/a	0	678
1945	1148	n/a	0	1148
1946	1337	25	0	1362
1947	1409	28	0	1437
1948	1877	110	0	1987
1949	198	177	0	375
1950	1853	221	0	2074
1951	2438	423	0	2861
1952	2576	377	0	2953
1953	2208	393	0	2601
1954	3674	416	0	4090
1955	3010	290	0	3300
1956	3493	446	0	3939
1957	4130	505	0	4635
1958	2931	1261	0	4192
1959	4307	3632	0	7939
1960	6662	4299	0	10961
1961	7977	3836	0	11813
1962	11600	1760	0	13360
1963	11300	3240	0	14540
1964	14200	26191	0	40391
1965	18000	16682	0	34682
1966	16434	9768	119	26321
1967	17528	5737	1002	24267
1968	22514	3397	257	26168
1969	14856	19760	9173	43789
1970	15871	35578	38035	89484
1971	9466	54339	15229	79034
1972	15983	16193	10872	43048
1973	13989	8561	7349	29899
1974	8791	16958	11972	37721
1975	4858	20372	12914	38144
1976	6005	16580	13469	36054
1977	4217	15045	9613	28875
1978	4082	14651	5884	24617
1979	2843	10311	4088	17242

n/a – not available

Table 3a. Greenland Halibut. Nominal catch (t) of Greenland Halibut combined. By countries (continued).

Year	Norway	Russia	Others	Total
1980	3157	7670	2457	13284
1981	4201	9276	1541	15018
1982	3206	12394	1189	16789
1983	4883	15152	2112	22147
1984	4376	15181	2326	21883
1985	5464	10237	4244	19945
1986	7890	12200	2785	22875
1987	7261	9733	2118	19112
1988	9076	9430	1081	19587
1989	10622	8812	704	20138
1990	17243	4764	1176	23183
1991	27587	2490	3243	33320
1992	7667	718	217	8602
1993	10380	1235	318	11933
1994	8428	283	515	9226
1995	9368	794	1572	11734
1996	11623	1576	1148	14347
1997	7661	1038	711	9410
1998	8435	2659	799	11893
1999	15004	3823	690	19517
2000	9083	4568	646	14297
2001	10896	4694	784	16374
2002	7143	5584	566	13293
2003	8207	4384	846	13437
2004	13933	4662	298	18893
2005	13425	4883	940	19248

Table 3b. Average – periods of 10 years.

Year	Norway	Russia	Others	Total
1935-44	873	n/a	-	873
1945-54	1872	217	-	2 089
1955-64	6961	4 546	-	11 507
1965-74	15 43	18 697	9401	43 441
1975-84	4 83	13 663	5 559	23 405
1985-94	11162	5 990	1 640	18 792
1995-04	10 35	3 378	806	14 320

Table 3c. Average - periods of 5 years

Year	Norway	Russia	Others	Total
1935-39	754	n/a	-	754
1940-44	993	n/a	-	993
1945-49	1 194	68	-	1 262
1950-54	2 550	366	-	2 916
1955-59	3 574	1 227	-	4 801
1960-64	10 348	7 865	-	18 213
1965-69	17 866	11 069	2 110	31 045
1970-74	12 820	26 326	16 691	55 837
1975-79	4 401	15 392	9 194	28 986
1980-84	3 965	11 935	1 925	17 824
1985-89	8 063	10 082	2 186	20 331
1990-94	14 261	1 898	1 094	17 253
1995-99	10 418	1 978	984	13 380
2000-04	9 852	4 778	628	15 259

Table 3d. Average - selected periods

Year	Norway	Russia	Others	Total
Before 1964	2 857	739	-	3 597
1964-91	10 522	14 552	5 891	30 965
1973-91	7 882	11 569	4 751	24 202
1992 - 05	10 090	2 922	718	13 729

Table 3e. Average - periods of 10 years in %

Period	Norway	Russia	Others	Total
1935-44	100%	n/a	0%	100%
1945-54	90%	10%	0%	100%
1955-64	60%	40%	0%	100%
1965-74	35%	43%	22%	100%
1975-84	18%	58%	24%	100%
1985-94	59%	32%	9%	100%
1995-04	71%	24%	6%	100%

Table 3f. Average - periods of 5 years in %

Period	Norway	Russia	Others	Total
1935-39	100%	n/a	0%	100%
1940-44	100%	n/a	0%	100%
1945-49	95%	5%	0%	100%
1950-54	87%	13%	0%	100%
1955-59	74%	26%	0%	100%
1960-64	57%	43%	0%	100%
1965-69	58%	36%	7%	100%
1970-74	23%	47%	30%	100%
1975-79	15%	53%	32%	100%
1980-84	22%	67%	11%	100%
1985-89	40%	50%	11%	100%
1990-94	83%	11%	6%	100%
1995-99	78%	15%	7%	100%
2000-04	65%	31%	4%	100%

Table 3g. Average - selected periods

Year	Norway	Russia	Others	Total
Before 1964	79%	21%	0%	100%
1964-91	34%	47%	19%	100%
1973-91	33%	48%	20%	100%
1992 - 05	73%	21%	5%	100%

Table 4a. GREENLAND HALIBUT. Nominal catches (t) in Sub-areas I, IIa and IIb.

	ICES-area I				ICES-area IIa					ICES-area IIb				
Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total
1970	1675	2336	0	4011	1970	6 408	76	8 466	14 950	1970	7 788	33 166	29 569	70 523
1971	1951	3441	21	5413	1971	4 974	491	5 392	10 857	1971	2 541	50 407	9 816	62 764
1972	3116	4366	1067	8549	1972	11 715	21	3 897	15 633	1972	1 152	11 806	5 915	18 873
1973	2947	1700	1020	5667	1973	7 861	22	307	8 190	1973	3 181	6 839	6 061	16 081
1974	2167	2329	755	5251	1974	6 593	-	1 259	7 852	1974	31	14 629	10 000	24 660
1975	216	3774	2505	6495	1975	2 265	515	386	3 166	1975	433	16 083	11 995	28 511
1976	1203	600	676	2479	1976	3 490	43	452	3 985	1976	1 312	15 940	12 361	29 613
1977	1371	360	542	2273	1977	1 446	6 960	1 990	10 396	1977	1 400	7 725	7 096	16 221
1978	1148	211	232	1591	1978	2 084	8 809	1 999	12 892	1978	850	5 631	3 653	10 134
1979	727	182	36	945	1979	2 051	6 929	1 307	10 287	1979	65	3 200	2 815	6 080
1980	490	100	12	602	1980	2 529	2 014	930	5 473	1980	138	5 556	1 515	7 209
1981	641	564	25	1230	1981	3 077	2 031	176	5 284	1981	483	6 681	1 340	8 504
1982	505	200	8	713	1982	2 487	2 459	101	5 047	1982	214	9 735	1 080	11 029
1983	490	196	1	687	1983	4 257	5 031	212	9 500	1983	136	9 925	1 899	11 960
1984	593	81	17	691	1984	3703	5459	404	9566	1984	80	9 641	1 905	11 626
1985	602	122	1	725	1985	4791	6894	495	12180	1985	71	3 221	3 748	7 040
1986	557	615	7	1180	1986	6389	5553	122	12064	1986	944	6 032	2 656	9 632
1987	984	259	12	1255	1987	5705	4739	142	10586	1987	572	4 735	1 964	7 271
1988	978	420	20	1418	1988	7859	4002	452	12313	1988	239	5 008	609	5 856
1989	2039	482	0	2521	1989	8050	4964	208	13222	1989	533	3 366	496	4 395
1990	1304	321	7	1632	1990	8233	1246	195	9674	1990	7 706	3 197	974	11 877
1991	2029	522	164	2715	1991	11189	305	1855	13349	1991	14 369	1 663	1 224	17 256
1992	2349	467	0	2816	1992	3586	58	154	3798	1992	1 732	193	63	1 988
1993	1754	867	88	2709	1993	7977	210	148	8335	1993	649	158	82	889
1994	1165	175	249	1589	1994	6382	67	127	6576	1994	881	41	139	1 061
1995	1352	270	121	1743	1995	6354	227	363	6944	1995	1 662	297	1 088	3 047
1996	911	198	72	1181	1996	9508	466	770	10744	1996	1 204	912	306	2 422
1997	610	170	77	857	1997	5702	334	364	6400	1997	1 349	534	270	2 153
1998	859	491	72	1422	1998	6661	530	284	7475	1998	915	1 638	443	2 996
1999	1101	1203	111	2428	1999	13064	734	189	13987	1999	839	1 886	390	3 115
2000	1021	1169	16	2206	2000	7536	690	180	8406	2000	526	2 709	450	3 685
2001	925	951	11	1887	2001	8740	726	285	9751	2001	1 231	3 017	488	4 736
2002	791	1167	3	1961	2002	5780	849	85	6714	2002	440	3 568	478	4 486
2003	949	735	52	1736	2003	6778	1762	496	9036	2003	620	1 887	298	2 805
2004	812	633	4	1449	2004	11633	810	42	12485	2004	1 395	3 219	252	4 866
2005	575	595	4	1174	2005	11756	1406	158	13320	2005	1 094	2 882	868	4 844

Table 4b.

ICES-area I					ICES-area IIa					ICES-area IIb				
Average - periods of 10 years					Average - periods of 10 years					Average - periods of 10 years				
Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total
1970-74	2 371	2 834	573	5 778	1970-74	7 510	122	3 864	11 496	1970-74	2 939	23 369	12 272	38 580
1975-84	738	627	405	1 771	1975-84	2 739	4 025	796	7 560	1975-84	511	9 012	4 566	14 089
1985-94	1 376	425	55	1 856	1985-94	7 016	2 804	390	10 210	1985-94	2 770	2 761	1 196	6 727
1995-04	933	699	54	1 687	1995-04	8 176	713	306	9 194	1995-04	1 018	1 967	446	3 431

Table 4c.

ICES-area I					ICES-area IIa					ICES-area IIb				
Average - periods of 5 years					Average - periods of 5 years					Average - periods of 5 years				
Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total
1970-74	2 371	2 834	573	5 778	1970-74	7 510	122	3 864	11 496	1970-74	2 939	23 369	12 272	38 580
1975-79	933	1 025	798	2 757	1975-79	2 267	4 651	1 227	8 145	1975-79	812	9 716	7 584	18 112
1980-84	544	291	300	1 578	1980-84	3 211	4 951	1 336	8 607	1980-84	210	7 610	5 488	13 851
1985-89	1 032	380	8	1 420	1985-89	6 559	5 230	284	12 073	1985-89	472	4 472	1 895	6 839
1990-94	1 720	470	102	2 292	1990-94	7 473	377	496	8 346	1990-94	5 067	1 050	496	6 614
1995-99	967	466	91	1 526	1995-99	8 258	458	394	9 110	1995-99	1 194	1 053	499	2 747
2000-04	900	931	17	1 848	2000-04	8 093	967	218	9 278	2000-04	842	2 880	393	4 116

Table 4d.

ICES-area I					ICES-area IIa					ICES-area IIb				
Average - selected periods					Average - selected periods					Average - selected periods				
Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total
1970-91	1 261	1 054	324	2 638	1970-91	5 325	3 117	1 398	9 839	1970-91	2 011	10 645	5 395	18 051
1973-91	1 105	686	318	2 109	1973-91	4 950	3 578	684	9 212	1973-91	1 724	7 306	3 863	12 892
1992 - 05	1 084	649	63	1 797	1992 - 05	7 961	634	260	8 855	1992 - 05	1 038	1 639	401	3 078

Table 4e.

ICES-area I					ICES-area IIa					ICES-area IIb				
Average - periods of 10 years in %					Average - periods of 10 years in %					Average - periods of 10 years in %				
Period	Norway	Russia	Others	Total	Period	Norway	Russia	Others	Total	Period	Norway	Russia	Others	Total
1970-74	41%	49%	10%	100%	1970-74	65%	1%	34%	100%	1970-74	8%	61%	32%	100%
1975-84	42%	35%	23%	100%	1975-84	36%	53%	11%	100%	1975-84	4%	64%	32%	100%
1985-94	74%	23%	3%	100%	1985-94	69%	27%	4%	100%	1985-94	41%	41%	18%	100%
1995-04	55%	41%	3%	100%	1995-04	89%	8%	3%	100%	1995-04	30%	57%	13%	100%

Table 4f.

ICES-area I					ICES-area IIa					ICES-area IIb				
Average - periods of 5 years in %					Average - periods of 5 years in %					Average - periods of 5 years in %				
Period	Norway	Russia	Others	Total	Period	Norway	Russia	Others	Total	Period	Norway	Russia	Others	Total
1970-74	41%	49%	10%	100%	1970-74	65%	1%	34%	100%	1970-74	8%	61%	32%	100%
1975-79	34%	37%	29%	100%	1975-79	28%	57%	15%	100%	1975-79	4%	54%	42%	100%
1980-84	34%	18%	19%	100%	1980-84	37%	58%	16%	100%	1980-84	2%	55%	40%	100%
1985-89	73%	27%	1%	100%	1985-89	54%	43%	2%	100%	1985-89	7%	65%	28%	100%
1990-94	75%	21%	4%	100%	1990-94	90%	5%	6%	100%	1990-94	77%	16%	8%	100%
1995-99	63%	31%	6%	100%	1995-99	91%	5%	4%	100%	1995-99	43%	38%	18%	100%
2000-04	49%	50%	1%	100%	2000-04	87%	10%	2%	100%	2000-04	20%	70%	10%	100%

Table 4g.

ICES-area I					ICES-area IIa					ICES-area IIb				
Average - selected periods					Average - selected periods					Average - selected periods				
Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total	Year	Norway	Russia	Others	Total
1970-91	48%	40%	12%	100%	1970-91	54%	32%	14%	100%	1970-91	11%	59%	30%	100%
1973-91	52%	33%	15%	100%	1973-91	54%	39%	7%	100%	1973-91	13%	57%	30%	100%
1992 - 05	60%	36%	3%	100%	1992 - 05	90%	7%	3%	100%	1992 - 05	34%	53%	13%	100%

Table 5. GREENLAND HALIBUT in Sub-areas I and II.

Nominal catch (t) by countries (Subarea I,Divisions IIa and IIb combined) as officially reported to ICES.

Year	Denmark	Estonia	Faroe Isl.	France	Fed. Rep. Germany	Greenl.	Iceland	Ireland	Lithuania	Norway	Poland	Portugal	Russia[3]	Spain	UK (Engl. & Wales)	UK (Scotland)	Total
1984	0	0	0	138	2 165	0	0	0	0	4 376	0	0	15 181	0	23	0	21 883
1985	0	0	0	239	4 000	0	0	0	0	5 464	0	0	10 237	0	5	0	19 945
1986	0	0	42	13	2 718	0	0	0	0	7 890	0	0	12 200	0	10	2	22 875
1987	0	0	0	13	2 024	0	0	0	0	7 261	0	0	9 733	0	61	20	19 112
1988	0	0	186	67	744	0	0	0	0	9 076	0	0	9 430	0	82	2	19 587
1989	0	0	67	31	600	0	0	0	0	10 622	0	0	8 812	0	6	0	20 138
1990	0	0	163	49	954	0	0	0	0	17 243	0	0	4 764 [2]	0	10	0	23 183
1991	11	2564	314	119	101	0	0	0	0	27 587	0	0	2 490 [2]	132	0	2	33 320
1992	0	0	16	111	13	13	0	0	0	7 667	0	31	718	23	10	0	8 602
1993	2	0	61	80	22	8	56	0	30	10 380	0	43	1 235	0	16	0	11 933
1994	4	0	18	55	296	3	15	5	4	8 428	0	36	283	1	76	2	9 226
1995	0	0	12	174	35	12	25	2	0	9 368	0	84	794	1 106	115	7	11 734
1996	0	0	2	219	81	123	70	0	0	11 623	0	79	1 576	200	317	57	14 347
1997	0	0	27	253	56	0	62	2	0	7 661	12	50	1 038	157 [2]	67	25	9 410
1998	0	0	57	67	34	0	23	2	0	8 435	31	99	2 659	259 [2]	182	45	11 893
1999	0	0	94	0	34	38	7	2	0	15 004	8	49	3 823	319 [2]	94	45	19 517
2000	0	0	0	45	15	0	16	1	0	9 083	3	37	4 568	375 [2]	111	43	14 297
2001 [1]	0	0	0	122	58	0	9	1	0	10 896 [2]	2	35	4 694	418 [2]	100	30	16 365
2002 [1]	0	219	0	7	42	22	4	6	0	7 011 [2]	5	14	5 584	178 [2]	41	28	13 161
2003 [1]	0	0	459	2	18	14	0	1	0	8 347 [2]	5	19	4 384	230 [2]	41	58	13 578
2004 [1]	0	0	0	0	9	0	9.3	0	0	13 840 [2]	1	50	4 662	186 [2]	43	0	18 800
2005 [1]	0	170	0	32	8	0	0	0	0	13 425 [3]	0	23	0	0 [3]	29	18	13 705

[1] Provisional figures.

[2] Working Group figures.

[3] USSR prior to 1991.

Table 6. Publications regarding, distribution, biological characteristics and fisheries of Northeast Arctic Greenland halibut from 1960s to present time.

Time period	Objects	References
1964-1967	Area of spawning grounds, period of mass spawning, first representative data on age-length structure of stock	Lahn-Johannessen 1965 1972, Sorokin 1967, Nizovtsev 1968 1969 1970, Hognestad 1969
1964-1970	Feeding	Nizovtsev 1972 1989a
1965-1973	Seasonal migrations between spawning and feeding grounds	Lahn-Johannessen 1965 1972, Nizovtsev 1989a
1968-1971	Gametogenesis and the sexual cycle	Sorokin et Grigoryev 1968, Fedorov 1968 1969 1971
1978-1980	Nursery grounds to the northeast of Spitsbergen and near Fr. Josef Land	Borkin 1983, Nizovtsev 1983a
1980s	Peculiarities of growth and maturation, dynamics of length-age structure of the stock	Kovtsova et Nizovtsev 1985, Nizovtsev 1987
	Migration and recruitment patterns in the Spitzbergen area	Godø et Haug 1987
	Distribution and feeding of larval Greenland halibut	Haug et al. 1989
	Relationship between recruitment and maternal stok	Nizovtsev 1983b 1989b
	Effect of environmental conditions on stock distribution	Nizovtsev 1985, Kovtsova, Nizovtsev, Tereshchenko 1987
1990s	Biological implications of a multi-gear fishery, gear selection	Nedreaas et al. 1996, Huse et al. 1997
	Fecundity	Smirnov 1998, Gundersen et al. 2000
	Spawning, recruitment, migrations	Hylen et Nedreaas 1995, Smirnov 1995, Stene et al. 1999, Albert et al. 2001a, Albert et Høines 2003, Albert et al. 2001b, Albert 2003, Ådlandsvik et al. 2004
	Feeding	Shvagzhdis 1991, Michalsen et Nedreaas 1998, Dolgov et Smirnov 2001, Hovde et al. 2002, Wollen et al. 2004
2002-	Russian-Norwegian research program on Greenland halibut	Papers and manuscripts on distribution, behaviour and other biological aspects of this stock

Signed by

From Russia

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Yury Lepesevitch

From Norway

_____
Harald Gjøsæter

Kirkenes 06. October 2006

APPENDIX 1

Delegations:

Russian Delegation:

Yuri Lepesevitch	-	Research Director, PINRO, Murmansk (head of delegation)
Yuri Kovalev	-	Head of department, PINRO, Murmansk
Konstantin Drevetnyak	-	Head of department, PINRO, Murmansk
Oleg Smirnov	-	Senior scientist, PINRO, Murmansk
Vadim Sokolov	-	Administration of the Murmansk Region, Murmansk
Sergei Sennikov	-	Deputy head of department, PINRO, Murmansk (interpreter)

Norwegian Delegation:

Harald Gjøsæter	-	Head of research group, IMR. Bergen (head of delegation)
Åge Høines	-	Senior scientist, IMR, Bergen
Ole Thomas Albert	-	Senior scientist, IMR, Bergen
Thorbjørn Thorvik	-	Head of section, Directorate of Fisheries, Bergen
Modulf Overvik	-	Advisor, Directorate of Fisheries, Bergen

APPENDIX 2

MANDATE - WORKING GROUP ON ELABORATION OF PROPOSAL ON JOINT MANAGEMENT MEASURES FOR GREENLAND HALIBUT
The working group will consist of scientists and managers from Norway and Russia.

Scientists participating from Norway:
Ole Thomas Albert
Harald Gjøsæter
Åge Høines
Kjell Nedreaas

Scientists participating from Russia:
Konstantin Drevetnyak
Yuri Lepesevitch
Vladimir Shibanov
Oleg Smirnov

Managers participating from Norway and Russia will be appointed later. The Working Group should meet in Copenhagen in April 2006 (during the meeting in ICES Arctic fisheries working group). The Working Group should further meet in Kirkenes in October 2006.
The working group shall consider all data available.

The Working group shall:

1. Present data on the geographical distribution of Greenland Halibut in relevant exclusive economical zones and international waters. All relevant data from fisheries and scientific surveys should be considered. If possible the considerations of possible influence from climate variations should be taken into account.

2. Tabulate catches, total and divided by country, distributed by ICES areas I, IIa and IIb.

3. Tabulate and document the extent of historic research of the stock.

These data should be prepared by both institutions before the meeting in October 2006
The Working Group will report annually to the Joint Russian-Norwegian Fisheries Commission.

Appendix 3

	Russia					Norway**			
	Number of cruises	Age samples	Length samples	Maturity and feeding	Number tagged	Number vessels	Specimen samples	Length samples	Number tagged
1962	28		2240				2240		149
1963	37		3394				2384		90
1964	43	1060	53563	4617			512		200
1965	50	749	58435	5856					
1966	44	2051	42092	3932	1429				
1967	55	4541	66101	11462	2262				
1968	31	4177	58338	13586	54				
1969	26	3673	65188	11470	3317				
1970	35	5695	80175	18784	5815		131	1433	
1971	37	8394	94535	20937			494	6231	
1972	29	6047	98571	15345			668	2725	
1973	29	1433	14500	5331	1003		2397	2604	
1974	23	2312	28993	9956			1149	4095	
1975	25	2216	28256	8220				2824	
1976	26	1489	21351	5468					
1977	22	1742	11185	4965			635	635	
1978	33	1444	7995	2994			788	788	
1979	20	899	11625	2427			886		
1980	24	1952	20128	4739		7	549	1946	
1981	17	3183	22429	4690		15	1283	9382	
1982	21	1950	26160	3886		19	1731	9085	
1983	22	2376	43177	7226		18	811	6329	638
1984	18	2390	23388	5489		7	444	11095	806
1985	16	2305	23583	3780		11	505	9709	998
1986	18	2133	37154	6134	42	13	805	7862	
1987	23	2729	25927	5760	5	19	1067	11329	
1988	21	1713	18498	3824		13	905	17567	
1989	19	1827	24789	3951	46	25	1595	19561	
1990	15	2282	29665	5580		20	1612	34350	
1991	4	1098	5889	1653		22	2090	25913	
1992	7	1282	16725	2021		36	8805	125834	
1993	9	1711	5420	2038		47	13562	115464	
1994	10	719	3906	754		54	14503	107706	
1995	24	1504	7982	1500		53	10265	85775	2519
1996	21	769	15344	1910		54	8975	67124	3105
1997	32	2538	98342	14051	241	51	22738	77605	2704
1998	37	3796	170191	18901	953	68	8438	65378	
1999	48	4226	270917	24370	1291	88	7001	57409	
2000	59	4804	275685	37818	317	54	7436	63471	
2001	40	2909	110159	12867	204	48	6994	71507	1094
2002	92	2542	134313	24564	889	53	5738	60116	2694
2003	55	1616	146049	16309	698	63	8587	118920	6662
2004	45	3882	123563	16501	920	75	10884	156859	8360
2005	37	4490	137091	14460	431	75	15860	154376	3726
2006*						24	3938	36163	12310

* Preliminary

**Before 1980 no information on sampling available in electronic format. The period 1962 - 1988 are incomplete and must be regarded as minimum.