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by

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This report presents *information* on catch statistics from the commercial Greenland fishery and on research carried out in 1997 by the Greenland Institute of Natural Resources.

WEST GREENLAND (NAFO SUBAREA 1)

A. STATUS OF THE FISHERIES

1. General trends

Provisional statistics for the fisheries in 1996 and 1997 are presented in Table 1.

Total nominal catches in Greenland waters increased from 93,083 tons in 1996 to 94,097 in 1997.

Landings of landings of shrimp decreased by 9% to 60,079 tons, the catch of Greenland halibut increased in 1996 by 21% to 23,141 tons and redfish by 13% to 970 tons. The cod fishery decreased by 4% to 904 tons

Catches of arctic char, redfish crabs, grenadiers, lumpsucker, scallops and wolffishes increased while atlantic halibut, atlantic salmon, capelin, greenland cod, polar cod and shark decreased.

2. Shrimp

a) The fisheries

The preliminary catch statistics of shrimp by Greenland vessels in Subarea 1 in 1997 is 60,000 tons. As normally ice cover hampered the access to the main fishing grounds in Division 1A, 1B and 1C early in the year. In general the fishery took place in the same areas as in earlier years. Most effort was spent in Div. 1B, 1C and 1D. A considerable restructuring of the offshore fleet has taken place in recent years. 15 vessels (above 75 GRT) participated in the offshore fishery in 1997.

A Standardized combined catch rate index based on logbook data from SA 0+1 showed that the biomass of shrimp in 1989-97 fluctuated without trend, but at a lower level than in 1976-88. The decrease from 1987 to 1989 was coincident with a substantial increase in effort.

b) Forecast for 1998

Results from a stratified-random trawl survey in the offshore area of Subarea 0+1 in 1997 showed decrease in total estimated biomass compared to the previous year. Overall size composition of the biomass in 1997 indicates reduced abundance of larger shrimp and recruitment to the female group in 1998 is forecasted to be low. The biomass estimate of a stratified-random trawl survey in the Disko Bay area was at the same level as in recent years. Scientific Council advised that 1998 catches in Subarea 1+0 be no higher than 55,000 tons.

3. Greenland halibut

a) The fisheries

The total catches of Greenland halibut by Greenland vessels in NAFO Subarea 1 amounted in 1997 to 23,146 tons. This is an increase by almost 4,000 tons. The increase mostly took place in the inshore area (total 20,897 tons). Offshore catches amounted to 2,249 tons and were mainly taken by trawlers. Additionally 2,474 tons were taken by foreign vessels offshore (EU, Norway, Faeroe Island and Russia). The total catch in NAFO Subarea 1 was thus 25,620 tons.

The inshore fishery in Div. 1A was concentrated in three areas Disko Bay (8,988 tons), Uummannaq (6,577 tons) and Upernavik (5,098 tons). The fishery was conducted by long lines and gill nets which accounts for 76% and 24% respectively.

b) Assessment

No analytical assessment has been made for either inshore or offshore stock components.

4. Cod

a) The fisheries

Catches have decreased very significantly over the last five years, with yields of 68,000 tons in 1990, the catches declined to 6,250 t in 1992. The decline was mainly caused by a reduction in effort in the offshore groundfish fishery. Catches in 1994 and 1995 amounted to 2,115 and 1,710 tons only. In 1996 and 1997 the catch decreased further to 945 tons and 904. The low inshore catch was due to decreasing catch rates and a general decline in the local inshore fishing effort directed to cod.

The large fishery in recent years was sustained by the very strong 1984 year-class, which according to tag returns and the distribution of young fish is believed to be of Iceland origin. Due to migration and fishery induced mortality this year-class is no longer present in West Greenland waters. The year-classes now dominating the inshore catches are supposedly of local fjord origin.

b) Assessment

No assessment or forecast is given here but reference is made to the Northwestern Working Group report by ICES, April 1998. Greenland offshore trawl survey, conducted in July-September 1997, showed an extremely low biomass of cod off West Greenland. Total abundance was estimated to be 45,000 individuals equivalent to a biomass of 64 tons. These low values are consistent with the findings in the German survey, conducted in the same area, and are also in line with last years estimate. Probability of stock recovery depends only on future recruitment. In view of the severely depleted spawning stock and rare event of drift from Iceland, substantial stock recovery must be considered as very unlikely.

5. Salmon

At its annual meeting in 1997 the West Greenland Commission of NASCO agreed on a 'reserve quota' to Greenland of 6% of the forecast PFA using the biological parameters provided by ICES in 1996. The quota was calculated to be 57 tons, and subsequently the Greenland authorities applied this amount as a TAC for 1997.

The fishery was initiated on August 18, and the season closed on September 23, when the quota was fished. The total nominal catches amounted to 58 tons, the majority of the catches being taken during the first three weeks. The 1997 catch is the lowest recorded since 1960, apart from the years 1993 and 1994 in which the fishery was suspended.

In recent years only minor catches have been taken in Div. 1A and 1B, while Div. 1C and 1E have been the most important areas. In 1997 also Div. 1F had relatively large catches.

6. Capelin

The capelin fishery in West Greenland is carried out inshore and in the spawning season only (May-July). The main part of the catches is produced as whole frozen fish for bait and local consumption, while a smaller part is dried and stored as food for sledge dogs in the winter season. The majority of the catches were taken in Div. 1A.

7. Redfish

Redfish is mainly taken as bycatch by trawlers in the offshore shrimp trawlers. A minor part is taken by smaller vessels inshore. Nominal catch of redfish in 1997 was 970 tons, of which approximately 54 tons were cached in the inshore area.

8. Grenadiers

There are two species of grenadiers of commercial interest in Greenland: roundnose grenadier and roughead grenadier. All catches are however reported as roundnose grenadier. The catch reported is taken as by-catch in the Greenland halibut fishery. The total catch in 1997 was 144 tons, which in an increase of 45 % compared to the previous year.

9. Snow Crab

a) The fisheries

The total catch of snow crab by Greenland vessels conducted by traps in Subarea 1 in 1997 was 3,214 tons, of which approximately 2,500 tons were taken in the inshore area. The total catch in 1997 increase with 77% compared to 1996 (note that reported official catch from 1996 is wrong!). The inshore fishery in Div. 1A (658 tons) was concentrated in two areas Qeqertarsuaq and Aasiat. In Div. 1B (2356 tons) was the fishery mainly concentrated in the inshore area around Sisimiut, in 1C/1D (46 tons) around Nuuk and in 1E (154) around Paamiut.

b) Assessment

No analytical assessment, based on logbooks from the commercial fishery, has been made for either inshore or offshore stock components.

10. Scallops

a) The fisheries

The total catches of Icelandic scallops in NAFO Subarea 1 amounted in 1997 to 1,887 tons. This is a 37% increase compared to 1996. All catches were taken in inshore areas in Div. 1A, 1 B, 1C 1D in 1997. The fishery in Division 1A is concentrated along the Disko island, and the area around Sønder Upernavik. Other areas a found at Attu (1B) and Nuuk (1D).

b) Assessment for 1998

There is a advised TAC for the major scallop areas (Nuuk, Attu and Disko) at West Greenland of 1800 tons.

B. SPECIAL RESEARCH STUDIES

I. BIOLOGICAL STUDIES

1. Shrimp

The series of annual stratified-random trawl surveys initiated in 1988 was continued in 1997. In July-September about 170 research trawl hauls were made in the major parts of the distributional area of the West Greenland shrimp stock, including areas in Subarea 0 and the inshore areas in Disko Bay and Vaigat.

2. Greenland halibut

A Greenland offshore trawl survey for Greenland halibut was initiated in 1997. The survey is a continuing of the joint Japanese / Greenland survey carried out in the period 1987-95. The survey covered NAFO Div. 1C and 1D between the 3 nm line and the 200 nm line. The survey was a stratified random bottom trawl survey. A total of 70 hauls were made in the period 20. September to 8. October 1997.

Otoliths were sampled during the annual Greenland shrimp survey and on the new Greenland halibut survey.

No length samples from the offshore commercial fishery were obtained in 1997. CPUE data were available from logbooks, while abundance and biomass data were available from the Greenland trawl surveys.

Inshore length samples were obtained from the commercial fishery in Disko Bay, Uummannaq and Upernavik in March and August. Otoliths were sampled during the Greenland longline survey as well from the commercial fishery in Disko Bay, Uummannaq and Upernavik.

A longline survey for Greenland halibut in the inshore areas of Disko Bay, Uummannaq, and Upernavik was initiated in 1993. The survey is conducted annually in July/August with the research long line vessel Adolf Jensen, covering two of the three areas alternately, in order to obtain a CPUE index series for Greenland halibut. In 1997 25 longline settings, with a total of 37025 hooks were performed.

Eleven longline were set in the Torssukatak and 14 in the Ilulissat area. Comparing the mean length as well as the CPUE recorded in the surveys in the 60's with the surveys in the nineties a decline was evident for both parameters. However, looking at the surveys between 1993 to 1997 no clear trend in short time is observed.

3. Young Cod survey

A survey using links of gill-nets with different mesh-sizes has been developed and used since 1985. The objective of the program is to assess the abundance and distribution of pre-recruit cod in inshore areas of Greenland. Results from this work are presented in the ICES Report of The North-Western Working Group.

4. Salmon

Biological characteristics (length, weight, and age) were recorded from 794 samples of commercial catches from NAFO Div. 1C and 1D in 1997 using the results of a discriminant analysis to divide samples into North American and European components. The mean lengths, weights and age compositions of the regional components of the catches were used to determine the input parameters for the calculation model for the Greenland quota for 1998.

Classification of salmon caught at West Greenland in 1997 by the discriminant function indicated that 60% (95% CI = 66%, 55%) were of North American origin. The proportions of North American fish in catches in Divisions 1C and 1D were 59.2 and 56.5%, respectively.

The downward trend in mean length of both European and North American 1SW salmon since 1969 changed in 1996, as mean lengths increased. From 1996 to 1997 the mean lengths decreased only slightly, being equal to or higher than the mean lengths observed in the last five years.

The proportionate distribution by weight categories (1.1-3.3 kg, 3.3-5.6 kg, and >5.6 kg) of the landings to the fish plants in West Greenland 1997 was similar to the distributions from 1996 and from the period 1987-90 and indicated somewhat larger salmon than in 1991 and 1995.

5. Snow crab

Trapping surveys were first conducted in 1992 in the inshore areas around Nuuk (Div. 1C), Sisimiut (Div. 1B) and Disko Bay (Div. 1A). In 1997 the survey were conducted in Sisimiut (Div. 1B), Disko Bay (Div. 1A) in May/June and in Maniitsoq (Div. 1C) in September/October with the research vessel "Adolf Jensen". The survey used baited traps with large and small mesh. All snow crabs were enumerated by sex, the carapace length, carapace width, chela height, weight and carapace condition was determined.

The objective of the monitoring program is to assess the abundance and distribution of snow crab in inshore areas of Greenland. Results from this survey are presented in the Technical Report of the Greenland Institute of Natural Resources.

6. Marine mammals

a) Small cetaceans

Studies of white whale and narwhal continued in 1997. Details are being reported to JCCM and NAMMCO.

b) Large cetaceans

Studies of minke whale, fin whale and humpback whale continued in 1997. Details are being reported to IWC.

c) Seals

Studies of harp and hooded seals are being reported to the Joint ICES/NAFO Working Group on Harp and Hooded Seals

GREENLAND FISHERY IN OTHER NAFO SUBAREAS

A. STATUS OF THE FISHERIES

In 1997 two Greenland vessels were engaged in the Flemish Cap shrimp fishery (NAFO Div. 3M). Total nominal catches amounted to 105 tons of shrimp. Compared to the catch of 1,107 tons of shrimp in 1996 the catch in 1997 was only minor.

EAST GREENLAND (ICES SUBAREA VA, XII AND XIV)**A. STATUS OF THE FISHERIES****1. General trends**

Table 1 shows provisional figures for the Greenland fisheries in ICES Subareas Va, XII and XIV. The nominal catch increased by 34% from 13,177 tons in 1996 to 17,691 in 1997. The increase was mainly caused by an increase in landings of capelin. An increase in landings of Greenland halibut, grenadiers and cod were also observed, whereas landings of Atlantic halibut, redfish, wolffishes and shrimp decreased.

2. Shrimp**a) The fisheries**

The catches by Greenlandic vessels amounted to 3,853 tons in 1997. The geographical pattern of this fishery has changed drastically in recent years. Traditionally the fishery took place primarily between 65°N and 67°30'N, and 26°W and 34°W. Since 1993 new grounds further south have been included.

b) Forecast for 1997

No trawl survey was conducted in the Denmark Strait in 1997. The changes in fishing patterns make interpretation of catch rate indices difficult.

Scientific Council advised that the data available provided no basis to change the TAC from the 1997 value of 5,000 tons. The total effective TAC in Greenland waters in 1998 has been set to 9,563 tons, of which 4,088 tons is reserved for Greenlandic vessels (no effective TAC is set for the Icelandic side of the midline).

3. Capelin

The capelin fishery in East Greenland in 1997 was carried out inshore in the spawning season (May-July), and offshore in the summer-autumn period by vessels from Greenland, EU, Faeroes, Iceland and Norway (195,140 tons). The total nominal catch by Greenland increased from 7,099 tons in 1996 to 12,690 tons in 1997.

Table 1. Nominal catches (tons) by Greenland vessels at West Greenland (NAFO Subarea 1) and East Greenland (ICES Subarea Va, XII and XIV) in 1996 and 1997 and the relative changes from 1996 to 1997. (*Provisional data). Note that for inshore landings a conversions factors of 1.10 is used to convert gutted fish to whole fish in 1997 (a factors of 1.05 was formerly used).

Species	NAFO SA			ICES SA			
	Div. 1A, B, C, D, E, F			Div 3M	Va, XII, XIV		
	Nominal catch 1996*	Nominal catch 1997*	% change 1996-97	Nominal catch 1997*	Nominal catch 1996*	Nominal catch 1997*	% change 1996-97
Arctic char	43	79	84				
Atlantic halibut	34	22	-35		13	4	-69
Atlantic salmon	82	43	-48			1	
Capelin	82	42	-49		7.099	12.121	71
Cod	945	904	-4		5	33	560
Crabs	740	2.557	246				
Greenland cod	2.117	1.729	-18		1	1	
Greenland halibut	19.153	23.146	21		1.162	1.258	8
Grenadiers	99	144	45		19	26	37
Lumpsucker	425	1.158	172				
Polar cod	3		-100				
Redfish	862	970	13		242	193	-20
Scallops	1.374	1.887	37				
Shark	135		-100		2	6	200
Shrimp	66.333	60.079	-9	105	4.545	3.853	-15
Wolffishes	47	68	45		12	6	-50
Fish not specified	609	1.269	108		77	189	145
Sum total	93.083	94.097	1	105	13.177	17.691	34