RESTRICTED

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

Serial No.2215
(A.c.1)

ICNAF Comm.Doc.69/12

ANNUAL MEETING - JUNE 1969

Extracts from
Report of ICES Liaison Committee
to
North-East Atlantic Fisheries Commission[1]
1969

A. REGION 1 FISHERIES

A.1 ASSESSMENT OF NORTH-EAST ARCTIC FISHERIES

1. In last year's report to the Commission the Committee presented the results of assessments of the state of the cod and haddock stocks in the north-east Arctic, based on statistical and biological data up to 1966 and of the effects on immediate and long-term yields of regulations controlling fishing mortality-rate in the exploited stocks. It was indicated that the stocks of both species were heavily exploited and the number of age-groups in the exploited stock had been severely reduced. The assessments also showed that no decrease and perhaps an increase in equilibrium catch-per-recruit would result from decreases in fishing-mortality rate (fishing intensity) of up to one-third and one half of the 1964-1966 level for cod and haddock respectively. It was further pointed out that for the stocks of both species the strengths of year-classes which will recruit to the exploited stocks in the next few years are very weak so that, if the fishing intensity remains at its present level, the spawning stock will be reduced to a very low level by the mid-1970's, which will not only lead to a major reduction in total catch and catch-per-unit effort, but would increase the dangers of the average level of recruitment to the exploited stock remaining at a low level. It was stressed that effective regulations reducing fishing-mortality rate, introduced now would lessen the dangers of these serious consequences being realised.

2. Although no further specific requests for scientific advice on these questions were made at the 1968 Commission meeting, in view of the importance of these results, further assessments of the state of the cod and haddock stocks and fisheries in this area have been made by the North-East Arctic Fisheries Working Group, using additional data for 1967. Consideration was also given to the states of the redfish and coalfish stocks exploited in the north-east Arctic. In addition, at the request of a meeting in January 1969 of representatives of the countries concerned in these fisheries, estimates were made at a meeting of some of the members of the Working Group of the total catches of cod and haddock that would be expected in 1970 and 1971 for various levels of fishing-mortality rate, which might form the basis of a catch quota regulation for these species.

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3. The details of these further assessments are set out in Annex I and their main results and conclusions are summarised below.

a) Cod

4. As expected, with the recruitment of the strong 1963 and 1964 year-classes to the exploited stock in Sub-area I (Barents Sea) and Division IIB (Bear Island-Spitsbergen) the total landings of cod increased in 1967, but they remained low in the fishery for older, spawning cod in Division IIA (Norwegian coast-Lofoten). However, despite this increase in total landings, the further data available indicate that the fishing mortality rate has increased since 1966. They confirm those of previous years in showing that the Arctic cod stock is heavily exploited, and that the present low size of the spawning stock has been largely caused by the high level of fishing mortality in earlier years: this reduction has increased the probability that average recruitment will remain at a low level. Moreover, the strengths of 1965-1968 year-classes, which will recruit to the fishery during the early 1970's are known to be very weak and will inevitably result in a further reduction in the spawning stock-size and in the catch and catch-per-unit effort.

5. The Committee considers that regulations controlling the fishing-mortality rate at a much reduced level, introduced in 1970, would result not only in an increase in the average catch per recruit and catch-per-unit effort but would also increase the probability of increasing the average year-class strength, and hence recruitment to the fishery in the future.

6. Estimates of the cod catches which would be taken in 1970 and 1971, based on the estimated fishing mortality rate in 1968, the abundance of the age-groups in the exploited stock and of the strengths of the year-classes which will recruit to the fishery in these years are given in the following Table for the following four levels of fishing-mortality rate:-

a) fishing-mortality rate remaining at the estimated level in 1968;
b) the level applying in the years 1964-1966;
c) the level corresponding with the maximum sustainable yield per recruit;
d) a lower level, corresponding with a fishing-mortality rate somewhat less than half the level of 1968 which would increase the probability of stronger year-classes and average recruitment returning to the level of the early 1950's.

Estimates of Total Annual Catch (000's m. tons) for Specified Levels of Fishing-Mortality Rate

	Percentage of 1968 level of fishing-mortality rate	1970 Whole fishery (Sub-area I, Divs. IIA + IIB combined)	1971 Whole fishery
a) Fishing-mortality rate (F) remaining at 1968 level	100	460	277
b) F fixed at 1964-66 level	91	430	274
c) F fixed at the level giving the maximum sustainable yield per recruit	61	316	246
d) F fixed at substantially lower level	42	234	204

7. These estimates represent for each level of fishing mortality rate the total annual quotas which would apply in 1970 and 1971 if a catch-quota regulation were introduced in 1970, to maintain the fishing-mortality rate in all parts of the total fishery at one of these levels.

8. It is again stressed that with the present low abundance of the spawning stock and recruitment to the exploited stock known to be very low during the next four to five years, the future recovery of the stock is only likely to be experienced with a substantial reduction in fishing-mortality rate from the present high level. It is also pointed out that although with no reduction in fishing-mortality rate below the 1968 level the total catches in 1970 and 1971 will be higher than at the lower rates, in subsequent years the catches would fall to a lower level and the catch-per-unit effort to a much lower one.

9. In addition to the assessment of the effects of changes in fishing-mortality rate, some preliminary consideration was given to the effects on previous mesh-size assessments of recent increases in growth of cod in the north-east Arctic, which may have changed the mesh-selection factors. Although further, more detailed analysis of the changes in the selectivity of cod, following the growth increase, will be made at the forthcoming meeting of the ICES/ICNAF Working Group on Selectivity Analysis, the following conclusions can be drawn from preliminary consideration of the effect these changes would have on previous assessments.

1) the age of first capture of cod has not been increased following the increase in mesh-size in the north-east Arctic fishery in recent years because these have been paralleled by increases in the length of the age-groups of cod;

2) if the higher growth-rate is maintained, the long-term gains from further increases in mesh-size would be slightly greater than those estimated in previous assessments.

b) Haddock

10. The results of further assessments of haddock in the north-east Arctic confirmed those reported to the Commission last year, in showing that, like that of the cod, the haddock stock is heavily exploited and subject to a high fishing mortality, and that recruitment to the stock in recent years has been poor. Moreover, the year-classes which will recruit to the fishery in the next few years are also estimated to be very weak ones, which, at the present level of fishing-mortality rate will result in a decrease in total catch and catch-per-unit effort during the early 1970's and will reduce the spawning stock to a low level with the possible consequent dangers of reduced, average recruitment in the future. These assessments also confirmed the previous ones in showing that no decrease, and perhaps some increase, in equilibrium catch, and an approximately proportionate increase in catch-per-unit effort would result from a decrease in fishing-mortality rate of up to at least half from the 1964-68 level. Action taken now, to regulate the fishing-mortality rate at a lower level would result in an increase in the average catch-per-recruit and catch-per-unit effort and lessen the possible dangers of continued, poor recruitment.

11. As for cod, estimates have been made of the expected catches in 1970 and 1971 at each of the following levels of fishing-mortality rate:-

a) fishing-mortality rate remaining at the 1968 level;
b) fishing-mortality rate fixed at the 1965-66 level;
c) fishing-mortality rate fixed at a level giving the maximum sustainable yield per recruit.

These estimates are given in the following Table:-

Estimates of Total Annual Catch (000's m. tons) for Specified Levels of Fishing-Mortality Rate

	Percentage of 1968 level of fishing-mortality rate	1970 Whole fishery (Sub-area I and Divs. IIA + IIB)	1971 Whole fishery
a) F remaining at 1968 level	100	43	30
b) F fixed at 1965-66 level	85	39	30
c) F fixed at a level giving the maximum sustainable yield per recruit	43	23	24

12. Again, as with the cod, these estimates represent for each level of fishing mortality rate the quotas which would apply in 1970 and 1971 if a catch-quota regulation were introduced in 1970 to maintain the fishing-mortality rate in all parts of the total fishery at one of these levels.

c) Redfish

13. Redfish landings in the north-east Arctic have declined from a peak of 109 thousand tons in 1959 to 24 thousand tons in 1967. It appears that both the peak fishery and subsequent decline, have referred mainly to a fishery for one species, Sebastes mentella, the fishery for S. marinus having remained at a steady low level for some years.

14. It has not been possible to determine the effects of fishing on the redfish stock owing to uncertainties regarding the accuracy of sampling and age determination. It is clear that research effort on the biology and population dynamics of redfish in this area will have to be intensified very considerably before accurate assessment of the effects of fishing on the redfish stocks can be made. It is considered that the international age reading validation studies, currently in progress, are of major importance in this work.

15. Despite these uncertainties, it is clear that production within the redfish stocks is not high so it is unlikely that they would be capable of sustaining a large long-term yield.

d) Coalfish

16. The statistics of the coalfish fishery in the north-east Arctic since 1960 suggest that stock abundance is high at the present time. Detailed age-composition data were not examined, but from the statistics it does not appear that fishing has had a marked, adverse effect on the stock since 1960.

A.2 ICELAND COD RESEARCH PROGRAMME

17. With reference to the proposal to close to trawling an area off the north-east coast of Iceland, the Commission at its 1968 Meeting requested ICES to initiate further research on the cod stocks in this area. Plans for this research programme in 1969 were drawn up at the 1968 ICES meeting. The programme includes:-

a) the sampling of trawl catches in areas around Iceland not normally fished commercially as well as those which are fished.

b) to conduct echo-surveys over as large an area as possible, to provide further information on distribution and abundance of cod.

c) the collection of biochemical material and otolith samples for stock subdivision studies.

d) tagging of cod during the course of research vessel fishing surveys.

18. A Planning Group was set up to promote the programme during the year by correspondence and meet at the next ICES Meeting to review progress and to plan the research for 1970. ICNAF has been informed of this programme since the research plans include the analysis of data, including tagging data, from the West Greenland cod stock. As requested by the Commission, a report on the results of this research programme will be prepared for the Commission's meeting in 1971.

B. REGION 2 AND 3 FISHERIES

B.2 ASSESSMENT OF NORTH SEA DEMERSAL FISHERY

51. In its reports to the Commission in 1967 and 1968, the Liaison Committee outlined its plans to undertake a new assessment of the stocks of the most important demersal species exploited in the North Sea. A Working Group, set up at the 1967 ICES Meeting under the chairmanship of Dr. E. Bertelsen, met in the spring of 1968 with the objectives of producing for each of the stocks of cod, haddock, whiting, plaice and sole:-

a) a review of the changes in the fisheries, and

b) an assessment of the present state of these stocks with particular reference to the effects of changes in mesh-size and fishing intensity.

52. The report of this Working Group was presented to the Demersal Fish (Northern) Committee at the 1968 ICES Meeting and has since been published as an ICES Cooperative Research Report, Series A, No. 9, 1969.

53. The results and conclusions of this assessment are summarized below.

Changes in fisheries

a) Cod

54. The total landings of cod from the North Sea declined during the period 1920 to 1938 from 156,000 tons to 71,000 tons. After the war, up until 1956, the landings fluctuated around 85,000 tons and from 1957 to 1963 around 105,000 tons. Thereafter they increased steadily, reaching 228,000 tons in 1966, and 250,000 tons in 1967. This recent increase is mainly due to the recruitment of a series of good year-classes, viz. year-class 1963 in the southern North Sea and the year-classes 1961, 1964 and 1965 in the northern and central North Sea.

55. The landings per unit of effort show the same general trends as the total landings. In particular, landings per unit of effort were higher after than before the war, and have tended to increase since 1950. However, it must be borne in mind that the postwar estimates may be artificially high in relation to pre-war periods, due to technological improvements in fishing.

b) Haddock

56. Immediately after the first world war the total landings of haddock in the North Sea were high, reaching 239,000 tons in 1920. During the next few years they declined, and from 1923 to 1933 fluctuated around 130,000 tons, followed by a further decrease to an 80,000 tons level from 1934-1939. They were high again immediately after the second world war, but they decreased rapidly and between 1947 and 1963 they fluctuated around the pre-war level of about 80,000 tons, the fluctuations being readily explainable in terms of good and bad year-classes. In 1964, the landings started to rise, reaching 272,000 tons in 1966 (167,000 tons in 1967). This was due to the effect of the 1962 year-class which is the strongest year-class ever recorded in the North Sea. While the landings of all countries with haddock fisheries increased during these years, the increase was most marked for Denmark, whose

landings increased from 3,000 tons in 1963 to 72,000 tons in 1964. In this year, haddock of the 1962 year-class were extremely abundant in the eastern parts of the northern and central North Sea, and vessels engaged in the Danish industrial fishery caught substantial quantities of haddock, which at that time were just above the minimum size. About 98% of these haddock were landed for fish meal. Landings by the USSR also increased very sharply to 86,000 tons in 1966.

57. The landings per unit of effort by English trawlers mainly fishing in areas of the central and southern North Sea declined from 1926 to 1962, but the landings per unit of effort by Scottish trawlers fishing mainly in areas of the northern and central North Sea tended to increase especially after 1952.

c) Whiting

58. Whiting landings have tended to increase since 1906. From 1906 to 1914, landings were around 20-30,000 tons, from 1929 to 1938 around 40,000 tons and from 1951 to 1964 around 80,000 tons. After 1964 the catch increased rapidly, and reached 158,000 tons in 1966 (91,000 tons in 1967). As for haddock the recent increase in landings can be attributed to the recruitment of the strong 1961 and 1962 year-classes.

59. The by-catch of whiting caught with small-meshed nets for industrial purposes increased in the Danish landings from about 9,000 tons annually in 1956-62 to about 35,000 tons annually in 1963-66.

60. Landings per unit of effort by English trawlers fishing mainly in the central and southern North Sea show a long-term decrease, while those by Scottish trawlers fishing mainly in the northern and central North Sea show a long-term increase.

d) Plaice

61. The annual landings of plaice from 1910 to 1939 were on an average about 60,000 tons. In 1945, the catch was above 100,000 tons, but decreased during the next five years to about 70,000 tons as stock abundance fell. From 1954, the catch started to rise again, and from 1961 to 1966 it again fluctuated around the 100,000 tons level. (1967: 101,000 tons).

62. The landings per unit of effort based on English steam trawler effort show a similar picture in the years following the two world wars, viz. a steep decrease as a consequence of an increasing effort. Since 1952 landings per unit of effort have increased almost continuously in the central and southern North Sea. This is thought to be due, at least in part, to a shift of the English fleet from grounds where small plaice predominate, to grounds where large fish predominate. In contrast, the landings per unit effort in the northern North Sea have tended to decrease.

e) Sole

63. The total landings have increased almost continuously since 1924. Before 1939, the landings averaged about 5,000 tons; in the 1950s they increased to 10-20,000 tons, and at the beginning of the 60s to above 20,000 tons. In 1966, 32,000 tons were landed. There has been considerable fluctuations in the landings, which can be ascribed to differences in year-class strength and to the effects of

cold winters. During these winters above average numbers of sole were caught and there was increased natural mortality, as a consequence of which stock abundance was heavily reduced. After the winter 1962-63, the total catch fell from 26,000 tons in 1963 to 11,000 tons in 1964. An analysis of the fishery on selected fishing grounds indicates that in the central North Sea the landings per unit of effort rose to a maximum in the period 1953-57, and appear to have fallen since. In the southern North Sea a maximum was reached in 1958, and since then there has been very little change. In the northern North Sea there has been no rise in landings per unit of effort since 1952.

64. It is considered that the increasing landings from 1924 onwards have been based upon a long-term increase in the abundance of soles in the central and southern North Sea, due, probably, to climatic changes. However, the decrease in abundance since the mid-50s is considered to be the result of increased fishing effort; fishing effort on sole started to rise rapidly from 1955 and has increased even more rapidly since 1963 as a result of the expanding Dutch fishery for sole, and the introduction of the beam trawl.

Assessments of effects of changes in mesh size and fishing intensity

65. Assessments were made of the immediate and long-term effects of changes in mesh size in the trawl and seine-net fisheries for these species and some consideration was also given to the effects of changes in fishing intensity (fishing mortality rate) with the present mesh sizes. The mesh assessments for cod, haddock and whiting were based on length composition data for the United Kingdom fishery only so that the estimates of immediate and long-term effects for these species refer only to these fisheries. It should be noted that the results of the mesh assessments depend upon the mortality rate during the period in which released fish will grow from the 50% length of the present mesh to that of the larger mesh. In the case of whiting and, to a lesser extent haddock, mortality during this time is increased due to capture in the Article 6 fisheries, which will reduce the long-term gains from the mesh increase.

Mesh Assessments

a) Cod

66. Immediate losses for increases in mesh size to at least 100 mm (manila) would be very small. Similarly, long-term gains would be small, averaging 3% for all U.K. fleets for an increase to 90 mm and 7% to 100 mm (manila). No attempt was made to determine the mesh size that would give the maximum catch of cod.

b) Haddock

67. Immediate losses for increases in mesh size would differ between different components of the U.K. fleet. They would be smallest for the English trawl and largest for the Scottish seine fisheries. For all gears combined they ranged from 10% with an increase to an 85 mm mesh (manila) to 44% with a 100 mm (manila) mesh. The long-term gains would also differ between the different components of the U.K. fishery, being greatest for English trawlers and smallest for Scottish seiners. For all gears combined, maximum catches per recruit would be taken at a mesh size of approximately 85 mm (manila).

c) Whiting

68. The immediate losses for whiting for increases in mesh size would be smallest for English trawlers and largest for Scottish seiners. They would increase rapidly for mesh sizes above 80 mm (manila), reaching a level of about 80% for all gears combined with a 100 mm mesh (manila). Long-term gains would accrue to English trawlers with increases in mesh size to 90 mm (manila), but the English seiners and Scottish trawlers and seiners would suffer losses above 85 mm. For the U.K. whiting fishery as a whole, the current legal mesh size of 80 mm (manila) corresponds approximately with the optimum for the present level of fishing mortality rate.

d) Plaice

69. Increases in mesh-size up to 100 mm (manila) would result in very small immediate losses, and in negligible long-term gains. The reason for this is that few small fish occur in the catches; the major fisheries take place on grounds where fish larger than the 50% selection point for a 100 mm mesh occur.

e) Sole

70. Immediate losses would be substantial, increasing with increasing mesh-size to a 70% immediate loss at 100 mm (manila). Theoretically, long-term gains would be achieved by all fleets even with an increase in mesh size to 100 mm. However, at this mesh size the age of recruitment to the fishery would rise to 6.3 years and since the stock of sole is known to be severely affected when cold winters occur there would be a serious possibility that year-classes would be reduced considerably before they recruited to the fishery at 6.3 years old. Thus it would be unlikely that the theoretical gain from raising the mesh-size would be realised.

71. Previously, mesh assessments for North Sea demersal species were presented to the Commission by the ad hoc Committee in 1955, while the results of further assessments for sole were presented in 1963. The results of the latest assessments of immediate and long-term effects reported above are in broad agreement with the earlier ones except that, for haddock they indicate a somewhat smaller "optimum" mesh size.

Fishing Intensity Assessments

72. Estimates of the present level of fishing mortality rate in the exploited stocks and assessment of their present state relative to the equilibrium yield per recruit curve indicate that, despite recent large increases in yield for most of these species, they are intensively fished and that a small reduction in fishing mortality rate would result in

(a) no decrease in yield-per-recruit for any of the species and an increase for some

(b) a proportionate increase in catch-per-unit effort for all species.

73. It should be noted that the recent high catches of cod, haddock, whiting and sole have been principally due to above average recruitment from a succession of strong year-classes. A decrease in average year-class strength to the earlier level would inevitably result in reduced average yields.

74. The Committee also wishes to point out that sufficient data were not available for all of the countries fishing for demersal species, which reduced the accuracy with which the effects of changes in mesh size and fishing intensity could be estimated.

C. SELECTIVITY AND RELATED ITEMS

C.1 MESH SIZES OF CODENDS IN USE

107. Ten countries submitted data for 1968 on mesh-size in use in the trawl and seine-net fisheries of NEAFC Regions 1, 2 and 3. One country reported measurements taken only with the ICES gauge, three countries reported measurements taken both with the wedge gauge and the ICES gauge; all the other countries have taken their measurements with a wedge gauge. As pointed out in last year's report for the 1967 data, the readings taken with the ICES gauge were somewhat higher than those taken with the wedge gauge, contrary to the general observation of comparative tests with the two gauges in the past. The data are summarised in Table I.

a) Region 1

108. Four countries reported mesh-size measurements from Region 1. The overall average mesh-sizes of codends made of polyamide were slig... above the regulation size of 120 mm; those for the polyethylene and polypropylene codends were also mostly above the convention mesh size of 130 mm. No measurements of codends made of natural fibres were reported.

b) Region 2

109. For most countries the overall average mesh sizes for trawl codends in the fisheries for protected species were at or slightly above the regulation sizes, although in most of them a proportion of the cod-ends were below this size. The data for seine-net fisheries indicated that the average mesh sizes were greater than the Convention mesh sizes. Only one country has given extensive measurements of trawl codends used in the fisheries for Recommendation 2 species. The overall average mesh sizes in codends used for prawn and herring were well below 50 mm (the lower limit in the 50-70/75 mm mesh gap), while those of codends used for Nephrops and greater weever were mostly within this gap. Few measurements of codends made of natural fibres were reported.

c) Region 3

110. Only two countries reported measurements of mesh sizes in codends used in the trawl fishery for protected species in Region 3. These measurements indicated an average mesh size lower than the Convention mesh sizes. However, it has to be noted that some of the codends were not only used for Annex II fisheries but also for Recommendation 2 species.

111. The Committee wishes to stress once more the importance of these data in assessments work and to request that all countries report measurements taken with the ICES gauge for both their Annex II and Recommendation 2 species fisheries.

C.2 TOPSIDE CHAFER IN USE

112. Further experiments with chafers have not been reported during 1968, and little information on types and incidence of chafers has been given on the reporting form of mesh size and topside chafers in use. The following terms were used by some countries on the reporting forms: "none reported", or "no chafers", and other countries gave no reply. However, it is the Committee's opinion that the information on chafers in use is not representative for the trawl fisheries in the NEAFC area, and the Committee wishes to stress once more the importance for assessments of knowing the type of chafers in use and the proportion of codends fitted with the different types of chafers.

C.3 NEW DATA ON CODEND MESH SELECTIVITY

(i) Hake

113. New data on the selection of hake by trawls with polyamide codends in the central Bay of Biscay (Region 3) were submitted to the 1968 ICES meeting by France. Hauls with a cover which enveloped the whole codend, as well as alternate hauls gave a selection factor of 4.6, whereas experiments with a trouser codend resulted in a selection factor of 5.6. In last year's report it was mentioned that a joint French-Portuguese-Spanish trawl experiment conducted with covered polyamide codends in Region 3 during 1967, yielded hake selection factors ranging from 3.2 to 4.2. The covers used in that experiment were attached to the topside of the codends only. A single series of alternate hauls gave a selection factor of 4.9. These results suggest that much of the great variation in the selection factors obtained for hake is due to differences in the experimental method employed.

114. Since the mid-thirties a total of 32 selection factors for hake in Regions 2 and 3 has been reported. The unweighted mean of 23 factors for polyamide and hemp is 4.2 (range 3.2-5.6), while that of 9 factors for manila and sisal is 3.8 (range 3.2-4.5).

(ii) Cod

115. A German trawl mesh selection experiment carried out at Bear Island during July 1968 resulted in cod selection factors of 3.5 for polyamide continuous, 3.3 for polyethylene monofilament, 3.3 for polypropylene continuous, 3.2 for polypropylene monofilament and 3.2 for polypropylene splitfibre. These factors are considerably lower than those found previously in the northeast Arctic. Compared to the selection factor for polyamide the corresponding factors for the three types of polypropylene were found to be lower by 8.2% (continuous), 9.6% (monofilament) and 9.9% (splitfibre). These differences are in line with previous results showing the selectivity of polypropylene to be similar to that of manila.

116. As in previous experiments, no significant differences in selectivity were found between codends made of various types of polypropylene. Therefore, it may be concluded that the different physical properties of the three kinds of polypropylene netting twines have no measurable influence on

the selectivity. The selection factor for the polyethylene codend was 6.2% lower than that for the polyamide codend. In two experiments carried out previously with the same codends the corresponding difference was only 3.7%

C.4 VARIABILITY OF SELECTIVITY DATA

117. In last year's report, the Committee indicated that ICES would initiate a comprehensive analysis of past codend mesh selectivity data, including the most recent data summarised above, with particular reference to their variability, and the factors governing it, especially the influence of codend materials. In view of the importance of such analyses also for the ICNAF fisheries, steps were taken in 1968 to establish a joint ICES/ICNAF expert working group for this purpose, under the chairmanship of Dr. A.I. Treschev.

Arrangements have been made for the Working Group to meet in March 1969 and the results of its analysis will be reported to the Commission at its 1970 Annual Meeting. Amongst its tasks, the Working Group will explore the possibility of publishing joint summaries of codend selectivity data obtained from experiments in the NEAFC and ICNAF areas.

D. OTHER ITEMS

D.1 FACTORS INFLUENCING RECRUITMENT TO FISH STOCKS

118. **Most fishery assessments undertaken hitherto have been based on the assumption that recruitment to the exploited stock is largely independent of the spawning potential of the stock, but recently, the validity of this assumption has been questioned for some important fish stocks. This has serious implications for stock assessment. In view of the worldwide importance of this problem, ICES decided at its meeting in 1968 to hold in early July 1970 a symposium on "The factors influencing recruitment in fish stocks, with special reference to the stock-recruitment relationship".** Both FAO and ICNAF will participate in this symposium.