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#### SCIENTIFIC COUNCIL MEETING - JUNE 1987

### Provisional Index and List of Titles of Research and

#### Summary Documents for 1986

by

#### NAFO Secretariat

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#### Introduction

Noting the usefulness of the three volumes containing subject and author indexes and lists of titles of ICNAF meeting documents for 1950-79, the Scientific Council of NAFO agreed that its research (SCR) and summary (SCS) documents should be indexed on an annual basis and that these provisional indexes be combined for publication at 5-year intervals. The first NAFO issue of <u>Index of Meeting Documents for 1979-84</u> was published in March 1985. The provisional index for 1985 was issued in early 1986 as NAFO SCS Doc. 86/7 (Serial No. N1118). The current provisional index relates to all SCR documents (No. 1-124) and SCS documents (No. 1-28) for the calendar year 1986.

Compilation of the subject and author indexes generally followed guidelines that were used in preparing the <u>Index of Meeting Documents</u> for 1979-84. Each of the research and summary documents is identified by its 3-character code (SCR or SCS), followed by the last two digits of the year of issue, an oblique (/), and then the designated document number. This is followed in parentheses by a shortened version of the title or an expression which indicates the object of the referenced paper.

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F 109 (young redfish in cod stomachs) 111 (oogenesis and maturity of cod) 112 (study on fecundity of cod) 113 (study on condition factors for cod) Fecundity 114 (gonad weight variation in cod) SCR 86/112 (study of cod on Flemish Cap) Flounder, eyed (Bothus ocellatus) Feeding; Food SCR 86/ 69 (occurrence over Atlantic Seamounts) SCR 86/ 80 (studies on cod in Div. 2J+3KL, 1978-85) 84 (cod predation on capelin in Div. 3L) Flounder, witch (Glyptocephalus cynoglossus) 97 (food of redfish larvae in Div. 3M) 101 (synopsis for cod and haddock in Div. 3M) SCR 86/ 12 (discarding by Nfld trawlers, 1984) 104 (synopsis for herring on Georges Bank) 107 (redfish as food for cod on Flemish Cap) (assessment of stock in Div. 3NO) 95 (discarding by Nfld trawlers, 1985) 109 (redfish in cod stomachs from Div. 3M) 116 (effect on recruitment of cod in NE Atlantic) SCS 86/ 24 (review of stock in Div. 3NO, Jun 1986) Flounder, yellowtail (Limanda ferruginea) Fisheries (see Catches) SCR 86/ 12 (discarding by Nfld trawler fleet, 1984) Fishing effort; Fishing intensity 39 (survey abundance of young in Div. 3LNO) 40 (assessment of stock in Div. 3LNO) SCR 86/ 1 (Iceland shrimp fishery off E Greenland)
2 (re yield of shrimp off E Greenland)
4 (Canadian shrimp fishery in SA 0, 1985) 92 (effect of warm-core rings on recruitment) 95 (discarding by Nfld trawler fleet, 1985) SCS 86/ 24 (review of stock in Div. 3LNO, Jun 1986) 5 (Greenland shrimp fishery off E Greenland) 6 (French shrimp fishery off E Greenland) 7 (French shrimp fishery in SA 1, 1985) Flounders (general) 8 (Norwegian shrimp survey off E Greenland) SCR 86/80 (food of cod in Div. 2J+3K, 1978-85) 9 (Norwegian shrimp fishery off E Greenland) 10 (Greenland shrimp fishery in SA 1, 1985) Food (see Feeding) 15 (inshore Nfld capelin fishery, 1985) 16 (longliners fishing off SW Nova Scotia) 21 (G. halibut fishery in Div. 2+3KL) France 22 (witch flounder fishery in Div. 3NO) 24 (re fishing mortality of Div. 2J+3KL cod) 28 (status of redfish stock in Div. 3M) SCS 86/ 15 (research report for 1985) 29 (roundnose grenadier fishery in SA 0 to 3) 35 (cod fishery in Div. 3NO) 36 (cod fishery in Div. 3Ps) 37 (redfish fishery in Div. 3LN) Gadidae (general) (see also under specific names) 40 (yellowtail flounder fishery in Div. 3LNO) 41 (A. plaice fishery in Div. 3LNO) SCR 86/ 80 (food of cod in Div. 2J+3K, 1978-85) 47 (cod fishery in Div. 2J+3KL)
53 (capelin fishery in Div. 3LN)
55 (cod fishery off W Greenland)
62 (silver hake fishery in Div. 4VWX) Gadus morhua (see Cod, Atlantic) Gammarids (amphipods) 82 (silver hake catch rates in Div. 4VWX) 85 (standardization of silver hake catches) SCR 86/ 80 (food of cod in Div. 2J+3K, 1978-85) Fishing gears (see also names of gears) Gastropods (molluscs) SCR 86/ 80 (food of cod in Div. 2J+3K, 1978-85) SCR 86/ 16 (longliner fishing grounds off Nova Scotia) 66 (USSR trawl surveys in SA 0 to 3) General production model (see Production model) Flatfishes (see Flounder, Halibut, Plaice) Genetics Flemish Cap (Div. 3M) SCR 86/102 (study of spiny dogfish populations) SCR 86/ 27 (estimating year-class strength of redfish) Georges Bank (Div. 5Z) 28 (assessment of redfish stock) 50 (status of cod stock from surveys) 63 (ichthyoplankton survey, 1985) SCR 86/ 16 (longliner fishing grounds off SW Nova Scotia). 74 (variation in shelf-water front, 1985) 64 (variable natural mortality of redfish) 68 (aspects of Benthosema glaciale biology) 75 (sea-surface temperatures off USA, 1985) 90 (age validation study of cod) 94 (equilibrium yield of cod stock) 96 (factors affecting redfish recruitment) 77 (warm-core Gulf Stream rings off USA, 1985) 92 (effect of warm-core rings on cod and haddock) 93 (larval herring in early 1970's and 1980's) 98 (distribution of larval sea scallops) 97 (abundance and size of redfish larvae) 100 (chaetognaths and oceanography) 101 (synopsis of research on cod and redfish) 106 (cod recruitment re temperature in SA 2 and 3) 107 (redfish availability to cod predation) 108 (abundance and growth of redfish) 104 (synopsis of research on herring) 105 (zooplankton faunal zones re hydrography) 110 (factors re variable recruitment of haddock)

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SCS 86/ 26 (research report for 1985)	29 (status of roundnose grenadier in SA 0 and 1) 42 (young cod surveys in coastal areas) 43 (changes in size-at-age of cod, 1979-84) 44 (distribution of Atlantic and spotted wolffish) 45 (migrations of spotted wolffish from tagging)		
Glacier lanternfish (see Lanternfish, glacier)			
Glyptocephalus cynoglossus (see Flounder, witch)	46 (effect of marine climate on cod stock) 48 (hydrographic conditions, 1980-85)		
Golden redfish (see Redfish, golden)	49 (capelin distribution in spawning period) 55 (status of cod stock and fishery)		
Gonatus fabricii (see Squid, Arctic)	73 (comments on temperature and salinity trends) 81 (abundance of spotted and Atlantic wolffishes)		
Gonostoma denudatum (see Anglemouth)	86 (further analysis of cod stock and fishery)		
Gonostoma elongatum (see Anglemouth, longtooth)	Greenland halibut (see Halibut, Greenland)		
Gonostomatidae (see Anglemouths)	Grenadier, roundnose (Coryphaenoides rupestris)		
Grand Bank (Div. 3LNO)	SCR 86/ 29 (status of fishery in SA 0+1 and 2+3) 61 (system of measuring grenadiers) 67 (doubt distribution in SA 0 2 and 3)		
SCR 86/ 11 (cod distribution from USSR surveys) 12 (discarding by Nfld trawler fleet, 1984) 21 (assessment of G. halibut in Div. 2+3KL)	67 (depth distribution in SA 0, 2 and 3) SCS 86/ 24 (review of stocks in SA 0 to 3, Jun 1986)		
22 (assessment of witch flounder in Div. 3NO)	Greysole (see Flounder, witch)		
23 (inshore cod catch re Div. 2J+3KL stock) 24 (estimating mortality for Div. 2J+3KL cod)	<u>Growth</u>		
25 (subsurface temperatures, 1978-85) 30 (target biomass of cod in Div. 2J+3KL) 32 (discrimination of cod in Div. 2J+3KL) 33 (mortality of Div. 2J+3KL cod from tagging) 35 (assessment of cod in Div. 3NO) 37 (status of redfish stock in Div. 3LN) 38 (redfish stock complex in Div. 3KLNOPs) 39 (young yellowtail surveys in Div. 3LNO) 40 (assessment of yellowtail in Div. 3LNO) 41 (assessment of A. plaice in Div. 3LNO) 47 (assessment of cod in Div. 2J+3KL) 51 (G. halibut and cod outside 200 mi in Div. 3L) 53 (status of capelin stock in Div. 3NO) 64 (variable natural mortality in capelin)	SCR 86/ 26 (short-finned squid in Div. 4VWX, 1985) 27 (redfish year-classes in Div. 3M) 32 (re discrimination of cod stock in Div. 2J+3KL) 43 (changes in size-at-age of cod in SA 1) 68 (biology of Benthosema glaciale in SA 3) 83 (changes in size-at-age of cod in Div. 2J+3KL) 90 (age validation of cod in Div. 3M) 99 (daily increments on sea scallop shells) 100 (chaetognaths re oceanography in Div. 5Z) 101 (synopsis of research on cod and haddock) 104 (synopsis of research on herring in Div. 5Z) 108 (and abundance of redfish on Flemish Cap)  Gulf of Maine (Div. 5Y)		
65 (acoustic survey for capelin, 1985) 66 (USSR trawl surveys in SA O to 3)	<del></del>		
68 (aspects of Benthosema glaciale biology) 79 (acoustic survey for capelin, 1985) 84 (capelin outside 200 miles in Div. 3L) 91 (cod recruitment re temperature) 92 (effect of warm-core rings on capelin) 95 (discarding by Nfld trawler fleet, 1985) 106 (cod recruitment re temperature) 118 (stock discrimination of cod in Div. 2J+3KL) 122 (age and length at maturity for cod) 123 (winter cod tagging in Div. 2J+3KL) 124 (assessment of cod in Div. 3NO)	SCR 86/ 16 (longline fishing grounds off SW Nova Scotia) 71 (hydrographic data for Bay of Fundy, 1951-80) 75 (sea-surface temperatures in NW Atlantic, 1985) 98 (distribution of larval sea scallops) 102 (genetic structure of spiny dogfish populations) 104 (synopsis of herring research on Georges Bank) 115 (model of larval herring recruitment)  Gulf of St. Lawrence (Div. 4VWX)  SCR 86/ 95 (discarding by Nfld trawler fleet, 1985) 103 (enigma of Gulf herring recruitment)		
Greenland (Denmark)	Gulf Stream (Western North Atlantic)		
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Greenland, East (Northeast Atlantic)	75 (sea-surface temperatures of USA, 1985) 76 (thermal structure off New Jersey, 1985)		
SCR 86/ 1 (Iceland shrimp fishery in 1985) 2 (sustainable yield of shrimp stock) 5 (Greenland shrimp fishery in 1985) 6 (French shrimp fishery in 1985) 8 (Norwegian shrimp survey in 1985) 9 (Norwegian shrimp fishery in 1985)	77 (warm-core rings off US coast, 1985)  H Haddock (Melanogrammus aeglefinus)		
Greenland, West (Subarea 1)	SCR 86/ 57 (by-catch in silver hake fishery of Div. 4VWX)		
SCR 86/ 3 (shrimp photo surveys, 1981-85) 7 (French shrimp fishery in 1985) 10 (Greenland shrimp fishery in 1985)	92 (effect of warm-core rings on recruitment) 95 (discarding by Nfld trawler fleet, 1985) 110 (variable recruitment on Georges Bank)		

German Democratic Republic	20 (continued warming trend in SA 1) 29 (status of roundnose grenadier in SA 0 and 1)
SCS 86/ 26 (research report for 1985)	42 (young cod surveys in coastal areas) 43 (changes in size-at-age of cod, 1979-84)
Glacier lanternfish (see Lanternfish, glacier)	44 (distribution of Atlantic and spotted wolffish) 45 (migrations of spotted wolffish from tagging)
Glyptocephalus cynoglossus (see Flounder, witch)	46 (effect of marine climate on cod stock)
Golden redfish (see Redfish, golden)	48 (hydrographic conditions, 1980-85) 49 (capelin distribution in spawning period) 55 (status of cod stock and fishery)
Gonatus fabricii (see Squid, Arctic)	73 (comments on temperature and salinity trends) 81 (abundance of spotted and Atlantic wolffishes)
Gonostoma denudatum (see Anglemouth)	86 (further analysis of cod stock and fishery)
Gonostoma elongatum (see Anglemouth, longtooth)	Greenland halibut (see Halibut, Greenland)
Gonostomatidae (see Anglemouths)	Grenadier, roundnose (Coryphaenoides rupestris)
Grand Bank (Div. 3LNO)	SCR 86/ 29 (status of fishery in SA 0+1 and 2+3) 61 (system of measuring grenadiers)
SCR 86/ 11 (cod distribution from USSR surveys) 12 (discarding by Nfld trawler fleet, 1984) 21 (assessment of G. halibut in Div. 2+3KL)	67 (depth distribution in SA 0, 2 and 3) SCS 86/ 24 (review of stocks in SA 0 to 3, Jun 1986)
22 (assessment of witch flounder in Div. 3NO) 23 (inshore cod catch re Div. 2J+3KL stock)	Greysole (see Flounder, witch)
24 (estimating mortality for Div. 2J+3KL cod) 25 (subsurface temperatures, 1978-85)	Growth
30 (target biomass of cod in Div. 2J+3KL) 32 (discrimination of cod in Div. 2J+3KL) 33 (mortality of Div. 2J+3KL cod from tagging) 35 (assessment of cod in Div. 3NO) 37 (status of redfish stock in Div. 3LN) 38 (redfish stock complex in Div. 3KLNOPs) 39 (young yellowtail surveys in Div. 3LNO) 40 (assessment of yellowtail in Div. 3LNO) 41 (assessment of A. plaice in Div. 3LNO) 47 (assessment of cod in Div. 2J+3KL) 51 (G. halibut and cod outside 200 mi in Div. 3L) 53 (status of capelin stock in Div. 3NO)	SCR 86/ 26 (short-finned squid in Div. 4VWX, 1985) 27 (redfish year-classes in Div. 3M) 32 (re discrimination of cod stock in Div. 2J+3KL) 43 (changes in size-at-age of cod in SA 1) 68 (biology of Benthosema glaciale in SA 3) 83 (changes in size-at-age of cod in Div. 2J+3KL) 90 (age validation of cod in Div. 3M) 99 (daily increments on sea scallop shells) 100 (chaetognaths re oceanography in Div. 5Z) 101 (synopsis of research on cod and haddock) 104 (synopsis of research on herring in Div. 5Z) 108 (and abundance of redfish on Flemish Cap)
64 (variable natural mortality in capelin) 65 (acoustic survey for capelin, 1985)	Gulf of Maine (Div. 5Y)
66 (USSR trawl surveys in SA 0 to 3) 68 (aspects of Benthosema glaciale biology) 79 (acoustic survey for capelin, 1985) 84 (capelin outside 200 miles in Div. 3L) 91 (cod recruitment re temperature) 92 (effect of warm-core rings on capelin) 95 (discarding by Nfld trawler fleet, 1985) 106 (cod recruitment re temperature) 118 (stock discrimination of cod in Div. 2J+3KL) 122 (age and length at maturity for cod) 123 (winter cod tagging in Div. 2J+3KL) 124 (assessment of cod in Div. 3NO)	SCR 86/ 16 (longline fishing grounds off SW Nova Scotia) 71 (hydrographic data for Bay of Fundy, 1951-80) 75 (sea-surface temperatures in NW Atlantic, 1985) 98 (distribution of larval sea scallops) 102 (genetic structure of spiny dogfish populations) 104 (synopsis of herring research on Georges Bank) 115 (model of larval herring recruitment)  Gulf of St. Lawrence (Div. 4VWX)  SCR 86/ 95 (discarding by Nfld trawler fleet, 1985)
Greenland (Denmark)	103 (enigma of Gulf herring recruitment)
SCS 86/ 12 (request for scientific advice for 1987) 16 (research report for 1985)  Greenland, East (Northeast Atlantic)	Gulf Stream (Western North Atlantic)  SCR 86/ 72 (review of environmental conditions, 1985)  74 (shelf-water front off US coast, 1985)  75 (sea-surface temperatures of USA, 1985)  76 (thermal structure off New Jersey, 1985)  77 (warm-core rings off US coast, 1985)
SCR 86/ 1 (Iceland shrimp fishery in 1985) 2 (sustainable yield of shrimp stock) 5 (Greenland shrimp fishery in 1985) 6 (French shrimp fishery in 1985) 8 (Norwegian shrimp survey in 1985) 9 (Norwegian shrimp fishery in 1985)	Haddock (Melanogrammus aeglefinus)
Greenland, West (Subarea 1)	SCR 86/ 57 (by-catch in silver hake fishery of Div. 4VWX)
SCR 86/ 3 (shrimp photo surveys, 1981-85) 7 (French shrimp fishery in 1985) 10 (Greenland shrimp fishery in 1985)	92 (effect of warm-core rings on recruitment) 95 (discarding by Nfld trawler fleet, 1985) 110 (variable recruitment on Georges Bank)

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Hyas coarctatus (see Crab, toad)

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Hydrography
Hake, red (Urophycis chuss)
                                                                    SCR 86/ 11 (re cod distribution in SA 3)
19 (influence on cod stock in Div. 2J)
SCR 86/ 57 (by-catch with silver hake in Div. 4VWX)
                                                                             20 (warm water off W Greenland)
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                                                                             25 (subsurface temperatures on Grand Bank)
43 (effect on growth of cod in SA 1)
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         54 (abundance of young in Canada-USSR surveys)
         56 (catches re temperature in Div. 4VWX) 57 (by-catches of other fish in 1985)
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         62 (assessment of stock on Scotian Shelf)
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89 (correlations of abundance indices)
                                                                             75 (sea-surface temperatures off US coast, 1985)
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92 (shelf water entrainment by warm-core rings)
Hake, white (Urophycis tenuis)
                                                                             97 (re redfish recruitment in Div. 3M)
SCR 86/ 12 (discarding by Nfld trawler fleet, 1984)
                                                                            100 (re chaetognath distribution on Georges Bank)
         95 (discarding by Nfld trawler fleet, 1985)
                                                                            101 (re cod and redfish recruitment in Div. 3M)
                                                                            103 (enigma of Gulf herring recruitment)
Halibut, Greenland (Reinhardtius hippoglossoides)
                                                                            104 (re herring recruitment on Georges Bank)
                                                                            105 (zooplankton faunal zones on Georges Bank)
SCR 86/ 4 (by-catch with shrimp in SA 0, 1985)
                                                                            106 (cod recruitment re temperature in SA 2-3)
          9 (by-catch with shrimp off E Greenland)
                                                                            110 (factors re variable recruitment of haddock)
         12 (discarding by Nfld trawler fleet, 1984)
21 (assessment of stock in Div. 2+3KL)
                                                                            116 (recruitment of Arcto-Norwegian cod)
                                                                            117 (postlarval fish in NE Atlantic survey, 1985)
         51 (abundance outside 200 miles in Div. 3L)
         67 (depth distribution in SA 0, 2 and 3)
                                                                    Hygophum benoiti (see Lanternfish)
         95 (discarding by Nfld trawler fleet, 1985)
SCS 86/ 24 (review of stocks in SA 0 to 3, Jun 1986)
Harp seal (see Seal, harp)
Hatchetfish, scaled (Sternoptyx diaphana, S. pseud-
                                                                    Ice; Icebergs
                                                                    SCR 86/ 72 (review of environmental conditions, 1985)
SCR 86/121 (mesopelagic fishes in NW Atlantic)
                                                                    Iceland area (Northeast Atlantic)
Hatchetfish, silver (Argyropelecus hemigymnus)
                                                                     SCR 86/ 1 (Iceland shrimp fishery in Denmark Strait)
SCR 86/ 69 (ichthyoplankton over Atlantic Seamounts)
                                                                              2 (sustainable yield of shrimp in Denmark Strait)
       121 (mesopelagic fishes in NW Atlantic)
                                                                    Ichthyococcus ovatus (see Anglemouth)
Hatchetfish, silver (Argyropelecus aculeatus, A. gigas,
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105 (larval surveys on Georges Bank)
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       115 (modal of larval recruitment in Maine)
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SCS 86/ 14 (research report for 1985)

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5 (EEC request for advice in 1987)

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6 (Canadian request for advice in 1987)
12 (Greenland request for advice in 1987)
                                                                                              115 (model of larval herring recruitment)
           24 (scientific advice from June 1986 meeting)
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                                                                                    Metridia sp. (copepod)
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                                                                                    Migrations
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                                                                                    SCR 86/ 32 (re cod stock discrimination in Div. 2J+3KL)
SCR 86/ 79 (environmental report for 1985/86)
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43 (changes in cod growth off W Greenland)
Mathematical analysis (see also Sequential population
                                                                                              45 (spotted wolffish off W Greenland)
55 (components of cod stock in SA 1)
67 (re depth distribution of deepwater slope fishes)
   analysis and Production model analysis)
SCR 86/64 (use of variable natural mortality rates)
                                                                                              118 (stock discrimination of cod in Div. 2J+3KL)
          115 (model of larval herring recruitment)
                                                                                              119 (factors relevant to recruitment)
123 (winter cod tagging in Div. 2J+3KL)
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           49 (capelin spawning in W Greenland)
                                                                                    SCR 86/ 80 (food of cod in Div. 2J+3K, 1978-85)
           55 (ogive for cod stock off W Greenland)
68 (biological aspects of Benthosema glaciale)
                                                                                    Mortality
          101 (cod and redfish research in Div. 3M)
         111 (oogenesis and maturity of cod in Div. 3M)
112 (fecundity of cod on Flemish Cap)
                                                                                    SCR 86/21 (assessment of G. halibut in Div. 2+3KL)
                                                                                               24 (estimation for cod in Div. 2J+3KL)
33 (cod from tagging in Div. 2J+3KL)
         114 (gonad weights of cod on Flemish Cap)
118 (use in discrimination of cod stocks)
120 (spawning of Maurolicus muelleri in N Atlantic)
                                                                                              35 (assessment of cod in Div. 3NO)
36 (assessment of cod in Div. 3Ps)
40 (assessment of yellowtail in Div. 3LNO)
41 (assessment of A. plaice in Div. 3LNO)
          122 (age and length at maturity for cod in SA 2-3)
                                                                                              47 (assessment of cod in Div. 2J+3KL)
55 (status of cod stock and fishery in SA 1)
58 (estimation for silver hake in Div. 4VWX)
60 (assessment of silver hake in Div. 4VWX)
62 (assessment of silver hake in Div. 4VWX)
Maurolicus muelleri (see Anglemouth, Müller's)
MEDS (see Marine Environmental Data Service)
Meganyctiphanes sp. (euphausiid)
                                                                                              64 (use of variable natural mortality rates)
86 (further analysis of cod off W Greenland)
SCR 86/105 (zooplankton faunal zones on Georges Bank)
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Melanogrammus aeglefinus (see Haddock)
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                                                                                              101 (cod and redfish recruitment in Div. 3M)
                                                                                             103 (enigma of Gulf herring recruitment)
104 (herring recruitment on Georges Bank)
Melanostomias melanops (see Dragonfish, smooth)
Melanostomias valdiviae (see Dragonfish, smooth)
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116 (recruitment of Arcto-Norwegian cod)
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SCR 86/ 32 (discrimination of cod stock in Div. 2J+3KL)
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SCR 86/ 46 (influence on cod stock off W Greenland)
                                                                                    Natantia (see Shrimp)
         48 (climate conditions in SA 1, 1980-85)
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110 (re variable recruitment of haddock in SA 5)
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                                                                                      to southern New England; see Georges Bank and Gulf of
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SCR 86/ 14 (capelin abundance from aerial surveys) 58 (estimating mortality of silver hake)
                                                                                    SCR 86/ 74 (variation in shelf-water front off USA, 1985)
                                                                                              75 (surface temperatures off US coast, 1985)
76 (thermal structure off New Jersey, 1985)
77 (warm-core rings off US coast, 1985)
           61 (system for measuring grenadiers)
           64 (use of variable natural mortality rates)
           66 (USSR trawl surveys in SA 0 to 3)
           90 (age validation of cod in Div. 3M)
                                                                                              92 (effect of warm-core rings on yellowtail stock)
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### Newfoundland area (inshore Subarea 3)

SCR 86/ 14 (capelin abundance from aerial surveys)

15 (inshore capelin fishery of Div. 3L, 1985)

17 (inshore Nfld squid fishery, 1985)

23 (inshore catches re offshore cod abundance)

Northeast Atlantic (see Atlantic Ocean, Northeast)

#### Northeast Nfld Shelf (Div. 3K)

SCR 86/ 12 (discarding by Nfld trawler fleet, 1984)

13 (acoustic capelin survey in 2J+3K, 1985)

21 (status of G. halibut stock in Div. 2+3KL)

23 (inshore catches re offshore cod abundance)

24 (estimating mortality in Div. 2J+3KL cod)

29 (status of roundnose grenadier in SA 0 to 3)

30 (target biomass of cod in Div. 2J+3KL)

32 (discrimination of cod stock in Div. 2J+3KL)

33 (mortality estimate of cod from tagging)

38 (redfish stock complex in Div. 3KLNOPs) 47 (status of cod stock in Div. 2J+3KL)

51 (G. halibut and cod outside 200 miles)

80 (food of cod in Div. 2J+3KL, 1978-85) 83 (changes in cod growth)

91 (cod recruitment re temperature)

95 (discarding by Nfld trawler fleet, 1985)

106 (cod recruitment re temperatures)

118 (stock discrimination of cod in Div. 2J+3KL) 122 (age and length at maturity of cod)

123 (winter tagging of cod in Div. 2J+3KL)

Northern prawn (see Shrimp, northern)

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Northwest Atlantic (see Atlantic Ocean, Northwest)

Norwegian Sea (Northeast Atlantic)

SCR 86/116 (recruitment of Arcto-Norwegian cod)

117 (0-group postlarval fish survey, 1985)

Notolychnus valdivaie (see Lanternfish)

Oceanography (see under Environment and specific headings such as Hydrography, Temperature, Salinity, etc.)

Oikopleura sp. (thaliacean)

SCR 86/ 97 (zooplankton caught on Flemish Cap)

Oithona sp. (copepod)

SCR 86/ 97 (zooplankton caught on Flemish Cap)

#### Otoliths

SCR 86/ 18 (Canada-USSR ageing of silver hake)

59 (Canada-USSR silver hake ageing)

70 (Cuba-Canada silver hake ageing)

Otter trawls (see Trawls)

Ova; Ovaries (see Eggs)

#### Oxygen (dissolved)

SCR 86/ 48 (re hydrographic conditions in SA 1)

#### P

Pachystomias microdon (see Dragonfish, smooth)

Pagophilus groenlandicus (see Seal, harp)

Pandalus borealis (see Shrimp, northern)

Pandalus montagui (see Shrimp, Aesop's)

Paracalanus sp. (copepods)

SCR 86/105 (zooplankton faunal zones on Georges Bank)

Paralepididae (see Baracudinas)

Paralepis atlantica (see Barracudina)

Parasites (see also under more specific headings)

SCR 86/ 32 (use in discrimination of cod stocks)

118 (use in discrimination of cod stocks)

Phoca groenlandica (see Seal, harp)

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SCR 86/ 3 (shrimp surveys in SA 1, 1981-85)

14 (capelin abundance by aerial surveys)

Photonectis braueri (see Dragonfish, smooth)

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Plaice, American (Hippoglossoides platessoides)

SCR 86/ 12 (discarding by Nfld trawler fleet, 1984) 41 (assessment of stock in Div. 3LNO)

63 (ichthyoplankton survey in Div. 3M, 1985)

95 (discarding by Nfld trawler fleet, 1985) SCS 86/ 24 (review of stocks in 3M and 3LNO, Jun 1986)

Plankton (see also Ichthyoplankton, Phytoplankton, and Zooplankton)

SCR 86/ 63 (ichthyoplankton survey in Div. 3M, 1985)

69 (ichthyoplankton over Atlantic Seamounts)

80 (food of cod in Div. 2J+3KL, 1978-85)

97 (ichthyoplankton surveys on Flemish Cap) 119 (factors relevant to recruitment in fishes)

#### Pleuromamma sp. (copepod)

SCR 86/105 (zooplankton faunal zones on Georges Bank)

Pleuronectidae (general) (see under specific names)

SCR 86/ 80 (food of cod in Div. 2J+3KL, 1978-85)

Pollachius virens (see Pollock)

Pollock (saithe) (Pollachius virens)

SCR 86/ 57 (by-catch with silver hake in SA 4, 1985) 117 (abundance of postlarvae in NE Atlantic)

#### **Polychaetes** 117 (0-group surveys for postlarval fish) 119 (philosophical discussion of recruitment) SCS 86/27 (synopsis of special session, Sep 1986) SCR 86/ 80 (food of cod in Div. 2J+3KL, 1978-85) Polyipnus asteroides (see Hatchetfish, silver) Red\_hake (see Hake, red) Portugal Redfish, beaked (Sebastes fasciatus; S. mentella) SCS 86/ 19 (research report for 1985) SCR 86/ 67 (depth distribution in SA 0 to 3, 1970-85) 101 (synopsis of research on Flemish Cap) Predation (see also Feeding) Redfish, golden (Sebastes marinus) SCR 86/ 80 (feeding of cod in Div. 2J+3KL) 96 (effect on recruitment in marine fishes) SCR 86/101 (synopsis of research on Flemish Cap) 101 (effect on cod and redfish in Div. 3M) 103 (effect on herring recruitment in Div. 4T) Redfishes, Atlantic (Sebastes sp.) (general) 107 (redfish availability as cod food in Div. 3M) 109 (cod predation on redfish in Div. 3M) SCR 86/ 4 (by-catch with shrimp in SA 0, 1985) 5 (by-catch with shrimp off E Greenland) Pressure (atmospheric) 9 (by-catch with shrimp off E Greenland) 10 (by-catch with shrimp in SA 1, 1985) SCR 86/ 72 (review of environmental conditions, 1985) 12 (discarding by Nfld trawler fleet, 1984) 27 (year-class strength from surveys in Div. 3M) Production model analysis 28 (status of stock and fishery in Div. 3M) 37 (status of stock and fishery in Div. 3LN) SCR 86/ 1 (yield of shrimp off E Greenland) 38 (analysis of stock complex in Div. 3KLNOPs) 28 (status of redfish stock in Div. 3M) 37 (status of redfish stock in Div. 3LN) 63 (ichthyoplankton survey in Div. 3M) 64 (use of variable natural mortality rates) 67 (depth distribution in SA 0 to 3, 1970-85) 94 (equilibrium yield of cod in Div. 3M) 80 (food of cod in Div. 2J+3KL, 1978-85) 95 (discarding by Nfld trawler fleet, 1985) Pseudocalanus sp. (copepod) (effects of environment on recruitment) SCR 86/105 (zooplankton faunal zones on Georges Bank) 97 (abundance of larvae in Div. 3M) 101 (synopsis of redfish research in Div. 3M) Publications 107 (availability as food for cod in Div. 3M) 108 (abundance and growth in Div. 3M) 109 (juveniles in cod stomachs on Flemish Cap) SCS 86/ 24 (report of STACPUB, Jun 1986) 27 (report of STACPUB, Sep 1986) SCS 86/ 24 (review of stocks in SA 1 and 3, Jun 1986) Reinhardtius hippoglossoides (see Halibut, Greenland) Remote-sensing Queen crab (see Crab, queen) SCR 86/ 72 (review of environmental conditions, 1985) 74 (variation in shelf-water front, 1985) 77 (warm-core rings off US coast, 1985) R 92 (shelf-water entrainment by warm-core rings) Reproduction (see also Eggs; Maturity; Spawning) Raja sp. (see Skate) SCR 86/46 (effect of environment on cod in SA 1) Recaptures (see Tagging) 68 (aspects of biology of Benthosema glaciale) 111 (oogenesis and maturity of cod in Div. 3M) Recruitment 120 (spawning and maturity of Maurolicus muelleri) SCR 86/ 54 (young silver hake surveys in Div. 4VWX) Reptantia 55 (status of cod stock and fishery in SA 1) 91 (cod re environment in Div. 2J+3KL) SCR 86/80 (food of cod in Div. 2J+3KL, 1978-85) 92 (effect of shelf-water entrainment on fish) 93 (variation in herring on Georges Bank) 94 (stock-recruitment of Flemish Cap cod) Research reports (national) 97 (redfish larval abundance in Div. 3M) 98 (larval sea scallops in Gulf of Maine) SCS 86/ 8 (Canadian report for 1985) 9 (United States report for 1985) 101 (synopsis for cod and redfish in Div. 3M) 13 (Spanish report for 1985) 103 (enigma of Gulf of St. Lawrence herring) 14 (Japanese report for 1985) 104 (synopsis for herring on Georges Bank) 15 (French report for 1985) 16 (Greenland report for 1985) 17 (USSR report for 1985) 106 (effect of temperature on cod in SA 2 and 3) 108 (abundance and growth of redfish in Div. 3M) 109 (cod predation on redfish in Div. 3M) 18 (Cuban report for 1985) 110 (variation in haddock on Georges Bank) 115 (model for larval herring in Maine waters) 19 (Portuguese report for 1985) 26 (GDR report for 1985) 116 (study of Arcto-Norwegian cod)

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Rhincalanus sp. (copepod)
                                                                    SCR 86/ 12 (discarding by Nfld trawler fleet, 1984)
SCR 86/105 (zooplankton faunal zones on Georges Bank)
                                                                             16 (longliner fishing grounds off SW Nova Scotia)
18 (Canada-USSR silver hake otolith exchange)
Rock grenadier (see Grenadier, roundnose)
                                                                             26 (short-finned squid fishery in 1985)
                                                                             52 (biomass of short-finned squid in 1985)
Roundnose grenadier (see Grenadier, roundnose)
                                                                             54 (silver hake abundance from research surveys)
Rules of Procedure (Scientific Council)
                                                                             56 (silver hake catches re temperature)
                                                                             57 (distribution of silver hake and other fish)
58 (estimating total mortality of silver hake)
SCS 86/ 24 (proposed revision re voting procedures)
         27 (adoption of new rule re voting)
                                                                             59 (Canada-USSR ageing of silver hake)
                                                                             60 (assessment of silver hake stock) 62 (assessment of silver hake stock)
         28 (amended rules of procedure)
                                                                             70 (silver hake otolith exchange program)
                                                                                (silver hake catches in small-meshed fishery)
                                                                             85 (standardization of silver hake catch rates)
                                                                                (silver hake yield-per-recruit)
Sagitta elegans (arrow worms (Chaetognatha)
                                                                                (correlation of silver hake abundance indices)
                                                                                (discarding by Nfld trawler fleet, 1985)
SCR 86/100 (abundance re oceanography on Georges Bank)
                                                                                (distribution of larval sea scallops)
        105 (zooplankton faunal zones on Georges Bank)
                                                                             99 (growth increments in larval sea scallops)
                                                                            102 (genetics of spiny dogfish populations)
Saithe (see Pollock)
                                                                    Sea scallops (see Scallop, sea)
Salinity
                                                                    Seal, harp (Phoca groenlandica)
SCR 86/ 20 (variation in W Greenland area)
         48 (hydrographic conditions in SA 1, 1980-85)
                                                                    SCS 86/ 10 (ICES proposal for joint working group)
         71 (data for the Bay of Fundy, 1951-80)
            (review of environmental conditions, 1985)
                                                                    Seal, hooded (Cystophora cristata)
         73 (comments on conditions off W Greenland)
         91 (re cod recruitment in Div. 2J+3KL)
97 (re abundance of redfish larvae in Div. 3M)
                                                                    SCS 86/ 10 (ICES proposal for joint working group)
        100 (chaetognaths re hydrography on Georges Bank)
                                                                    Sebastes fasciatus (see Redfish, beaked)
        101 (effect on cod and redfish larvae in Div. 3M)
                                                                    Sebastes marinus (see Redfish, golden)
Salpa maxima (thaliacean)
                                                                    Sebastes mentella (see Redfish, beaked)
SCR 86/105 (zooplankton faunal zones on Georges Bank)
                                                                    Sebastes sp. (see Redfishes, Atlantic)
Sampling (biological)
                                                                    Sequential population analysis
SCR 86/61 (partial length measuring of grenadiers)
SCS 86/ 20 (preliminary list of data for 1985)
23 (notes on NAFO sampling program)
                                                                    SCR 86/ 21 (G. halibut stock in Div. 2+3KL)
                                                                             35 (cod stock in Div. 3NO)
36 (cod stock in Div. 3Ps)
         24 (review of program at Jun 1986 meeting)
                                                                             40 (yellowtail flounder stock in Div. 3LNO)
                                                                             41 (A. plaice stock in Div. 3LNO)
47 (cod stock in Div. 2J+3KL)
55 (cod stock off W Greenland)
Sand lance (Ammodytes sp.)
SCR 86/ 5 (by-catch with shrimp off E Greenland)
                                                                                (silver hake stock in Div. 4VWX)
Satellite imagery (see Remote-sensing)
                                                                             64 (use of variable natural mortality rates)
                                                                            86 (further analysis of cod stock in SA 1)
124 (further analysis of cod stock in Div. 3NO)
Scaled hatchetfish (see Hatchetfish, scaled)
Scallop sea (Placopecten magellanicus)
                                                                    Shark, dogfish (see Dogfish, spiny)
SCR 86/ 98 (distribution of larvae in Gulf of Maine)
                                                                    Short-finned squid (see Squid, short-finned)
         99 (observations on daily growth of larvae)
                                                                    Shrimp, Aesop's (Pandalus montagui)
Scientific Council (NAFO)
                                                                    SCR 86/ 80 (food of cod in Div. 2J+3K, 1978-85)
SCS 86/ 1 (report of midterm meeting, Jan 1986)
         24 (report of regular meeting, Jun 1986)
                                                                    Shrimp, northern (Pandalus borealis)
         27 (report of annual meeting, Sep 1986)
                                                                    SCR 86/ 1 (Iceland fishery off E Greenland, 1985)
Scolecithrix danae (copepod)
                                                                              2 (sustainable yield in Denmark Strait)
                                                                              3 (photo surveys in SA 1, 1981-85)
4 (Canadian fishery in SA 0, 1985)
SCR 86/105 (zooplankton faunal zones on Georges Bank)
                                                                              5 (Greenland fishery off E Greenland, 1985)
Scomber scombrus (see Mackerel, Atlantic)
                                                                              6 (French fishery off E Greenland, 1985)
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7 (French fishery off W Greenland, 1985)
8 (Norwegian survey off E Greenland, 1985)
                                                                         STACREC (Standing Committee on Research Coordination)
         9 (Norwegian fishery off E Greeland, 1985)
10 (Greenland fishery in SA 1, 1985)
80 (food of cod in Div. 2J+3K, 1978-85)
                                                                      SCS 86/ 24 (report of meeting, Jun 1986)
                                                                         Statistics
          1 (review of stocks in SA 0 and 1, Jan 1986)
         11 (comments on proposal for ageing workshop)
                                                                         SCS 86/ 2 (historical data for some stocks, 1963-84)
4 (report of CWP interagency meeting, Oct 1985)
Silver hake (see Hake, silver)
                                                                                  21 (notes on statistical activities, 1985/86)
                                                                                  22 (provisional nominal catches for 1985)
Silver hatchetfish (see Hatchetfish, silver)
                                                                                  24 (review of program at Jun 1986 meeting)
Skates (Raja sp.)
                                                                         Sternoptychidae (see Hatchetfish, scaled)
SCR 86/ 12 (discarding by Nfld trawlers in 1984)
                                                                         Sternoptyx diaphana (see Hatchetfish, scaled)
         95 (discarding by Nfld trawlers in 1985)
                                                                         Sternoptyx pseudobscura (see Hatchetfish, scaled)
Smooth dragonfish (see Dragonfish, smooth)
                                                                         Stock; Stock size (see also Abundance)
Snow crab (see Crab, queen)
                                                                         SCR 86/ 3 (shrimp biomass by photography in SA 1)
                                                                                  8 (shrimp biomass off E Greenland, 1985)
13 (capelin biomass in Div. 2J+3K, 1985)
21 (status of G. halibut in Div. 2+3KL)
Southern New England (see New England)
Spain
                                                                                  30 (target biomass of cod in Div. 2J+3KL)
SCS 86/ 13 (research report for 1985)
                                                                                  34 (assessment of cod stock in Div. 3Ps)
                                                                                  35 (assessment of cod stock in Div. 3NO)
Spawning (see also Eggs, Maturation, Reproduction)
                                                                                  36 (assessment of cod stock in Div. 3Ps)
                                                                                  40 (assessment of yellowtail in Div. 3LNO)
41 (assessment of A. plaice in Div. 3LNO)
SCR 86/ 32 (discrimination of cod stock in Div. 2J+3KL)
         49 (distribution of capelin at W Greenland)
                                                                                  47 (assessment of cod stock in Div. 2J+3KL)
        101 (cod and redfish research in Div. 3M)
                                                                                  51 (G. halibut and cod outside 200 miles)
        103 (enigma of Gulf herring recruitment)
                                                                                  52 (biomass of squid in Div. 4VWX, 1985)
        104 (herring recruitment on Georges Bank)
                                                                                  55 (biomass of cod off W Greenland)
                                                                                  60 (status of silver hake in Div. 4VWX)
62 (assessment of silver hake in Div. 4VWX)
        116 (recruitment of Arcto-Norwegian cod)
        118 (discrimination of cod stock in Div. 2J+3KL)
                                                                                  65 (capelin acoustic survey in Div. 3LNO) 79 (status of capelin stock in Div. 3LNO)
        121 (maturation of Maurolicus muelleri)
                                                                                  81 (biomass of wolffishes off W Greenland)
86 (further analysis of cod stock in SA 1)
Spiny dogfish (see Dogfish, spiny)
                                                                                  89 (abundance indices for silver hake)
Spotted wolffish (see Wolffish, spotted)
                                                                                  94 (stock-recruitment for cod in Div. 3M)
Squalus acanthias (see Dogfish, spiny)
                                                                                 124 (assessment of cod stock in Div. 3NO)
                                                                         Stock discrimination
Squid, Arctic (Gonatus fabricii)
                                                                         SCR 86/ 32 (cod stock complex in Div. 2J+3KL)
SCR 86/117 (occurrence in 0-group fish surveys)
                                                                                  38 (redfish stock complex in Div. 3KLNOPs)
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86/108	N1235*	LILLY, G. R. Abundance and growth rate of juvenile redfish (Sebastes sp.) on Flemish Cap during the period 1978-1985. (5 pages)
86/109	N1236*	LILLY, G. R., and G. T. EVANS. Inferences from juvenile redfish found in cod stomachs from Flemish Cap. (13 pages)

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86/110	N1237*	COHEN, E. B., D. G. MOUNTAIN, and R. G. LOUGH. Possible factors responsible for the variable recruitment of the 1981, 1982 and 1983 year-classes of haddock (Melanogrammus aeglefinus L.) on Georges Bank. (27 pages)
86/111	N1238*	WALSH, S. J., R. WELLS, and S. BRENNAN. Histological and visual observations on oogenesis and sexual maturity of Flemish Cap female cod. (11 pages)
86/112	N1239*	WELLS, R. Fecundity of cod on the Flemish Cap. (2 pages)
86/113	N1240*	WELLS R. Condition factors of cod on the Flemish Cap in 1978-85. (11 pages)
86/114	N1241#	$\frac{\text{WELLS, R.}}{\text{of maturing female cod on the Flemish Cap.}}$ (4 pages)
85/115	N1242*	CAMPBELL, D. E., and J. J. GRAHAM. An evaluated model of larval herring recruitment in coastal Maine. (20 pages)
86/116	N1243*	ELLERTSEN, B., P. FOSSUM, P. SOLEMDAL, S. SUNDBY, and S. TILSETH. Effects of biological and physical factors on survival of Arcto-Norwegian cod and influence on recruitment variability. (25 pages)
86/117	N1244*	NEDREARS, K. Abundance and distribution of post larvae in the O-group saithe survey in the North-East Arctic in 1985. (25 pages)
86/118	N1245	LEAR, W. H. A further discussion of the stock complex of Atlantic cod ( $Gadus\ mor-hua$ ) in NAFO Div. 2J, 3K and 3L. (18 pages)
86/119	N1246≉	ILES, T. D. Interaction of external and internal factors in relation to recruitment. $(24 \text{ pages})$
86/120	N1248	GRIGORYEV, G. V., and S. A. OGANESYAN. Nature of spermatogenesis, type of spawning and maturity scale for testes of <i>Maurolicus muelleri</i> (14 pages)
86/121	N1249	KISELEVA, V. M., and V. A. POLETAEV. Mesopelagic fishes (Suborder Stomiatoidei) in the Northwest Atlantic. (20 pages)
86/122	N1251	BAIRD, J. W., C. A. BISHOP, and R. WELLS. Estimates of age and length at maturity for cod in NAFO Divisions 2J+3KLNO. (3 pages)
86/123	N1252	LEAR, W. H. Results of tagging on winter concentrations of cod in NAFO Divisions 2J, 3K and 3L during 1978-83. (8 pages)
86/124	N1253	BISHOP, C. A., and J. W. BAIRD. An assessment update of the cod stock in NAFO Divisions 3NO. (14 pages)

[Asterisks (\*) indicate papers presented at the Special Session on recruitment studies, 3-5 September 1986]

## **Summary Documents (SCS)**

### 1986

86/1	N1109	NAFO. Provisional Report of Scientific Council, January 1986 Meeting. (25 pages)
86/2	N1112	NAFO SECRETARIAT. Historical catches of selected species by stock area and country for the period 1963-84. (73 pages)
86/3	N1114	NAFO SECRETARIAT. Tagging activities reported for the Northwest Altantic in 1985. (6 pages)
86/4	N1115	CWP SECRETARY. Report of the $Ad\ hoc$ Inter-agency Consultation on Atlantic Fishery Statistics, London, England, 5-6 October 1985. (4 pages)
86/5	N1116	GALLAGHER, E. EEC request for scientific advice on management in 1987 of the cod stock in Subdivision 3Ps. (1 page)

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86/6	N1117	PARSONS, L. S. Canadian request for scientific advice on management in 1987 of certain stocks in Subareas O to 4. (1 page)
86/7	N1118	NAFO SECRETARIAT. Provisional index and list of titles of research and summary documents for 1985. (29 pages)
86/8	N1121	COADY, L. W., J. S. SCOTT, J. S. LOCH, and L. CLEARY. Canadian research report, 1985. (Sections I, II, III and IV). (23 pages)
86/9	N1123	MAURER, R. O., S. MURAWSKI, and F. M. SERCHUK. United States research report for 1985. (9 pages)
86/10	N1124	NAFO SECRETARIAT. ICES proposal for joint working group on harp and hooded seals. (2 pages)
86/11	N1125	NAFO SECRETARIAT. Solicited comments on proposal for second ageing workshop on shrimp. (3 pages)
86/12	N1130	LEMCHE, E. Denmark (Greenland) request for scientific advice on management of certain stocks in 1987. (2 pages)
86/13	N1136	VAZQUEZ, A. Spanish research report, 1985. (8 pages)
86/14	N1148	KAWAHARA, S. Japanese research report for 1985. (4 pages)
86/15	N1155	POULARD, J. C. French research report for 1985. (5 pages)
86/16	N1166	LEHMANN, K. Denmark (Greenland) research report for 1985. (7 pages)
86/17	N1179	CHUMAKOV, A. K., and V. A. BOROVKOV. USSR research report for 1985. (32 pages)
86/18	N1189	ROMINGUEZ, R., and J. A. VAREA. Cuban research report for 1985. (11 pages)
86/19	N1193	GODINHO, M. L. Portuguese research report, 1985. (5 pages)
86/20	N1199	NAFO SECRETARIAT. Preliminary list of sampling data, 1985. (32 pages)
86/21	N1209	NAFO SECRETARIAT. Notes on statistical activities and publications since June 1985. (3 pages)
86/22	N1210	NAFO SECRETARIAT. Provisional nominal catches in the Northwest Atlantic, 1985. (52 pages)
86/23	N1212	NAFO SECRETARIAT. Notes on NAFO sampling program. (8 pages)
86/24	N1216	NAFO. Provisional Report of Scientific Council, Dartmouth, Canada, 4-19 June 1986. (99 pages + Corrigenda)
86/25	N1226	FAO. Quantity conversion factors: Atlantic fish species - landed or product weight to live weight. (45 pages)
86/26	N1264	ERNST, P. German Democratic Republic research report for 1985. (20 pages)
86/27	N1265	NAFO. Report of Scientific Council Meeting, Annual Meeting, Halifax, Nova Scotia, Canada, 3-12 September 1986. (28 pages)
86/28	N1266	NAFO. Rules of procedure for the Scientific Council. (6 pages)