

Northwest Atlantic



Fisheries Organization

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**Provisional Index and List of Titles of Research  
and Summary Documents of 1993**

by

NAFO Secretariat

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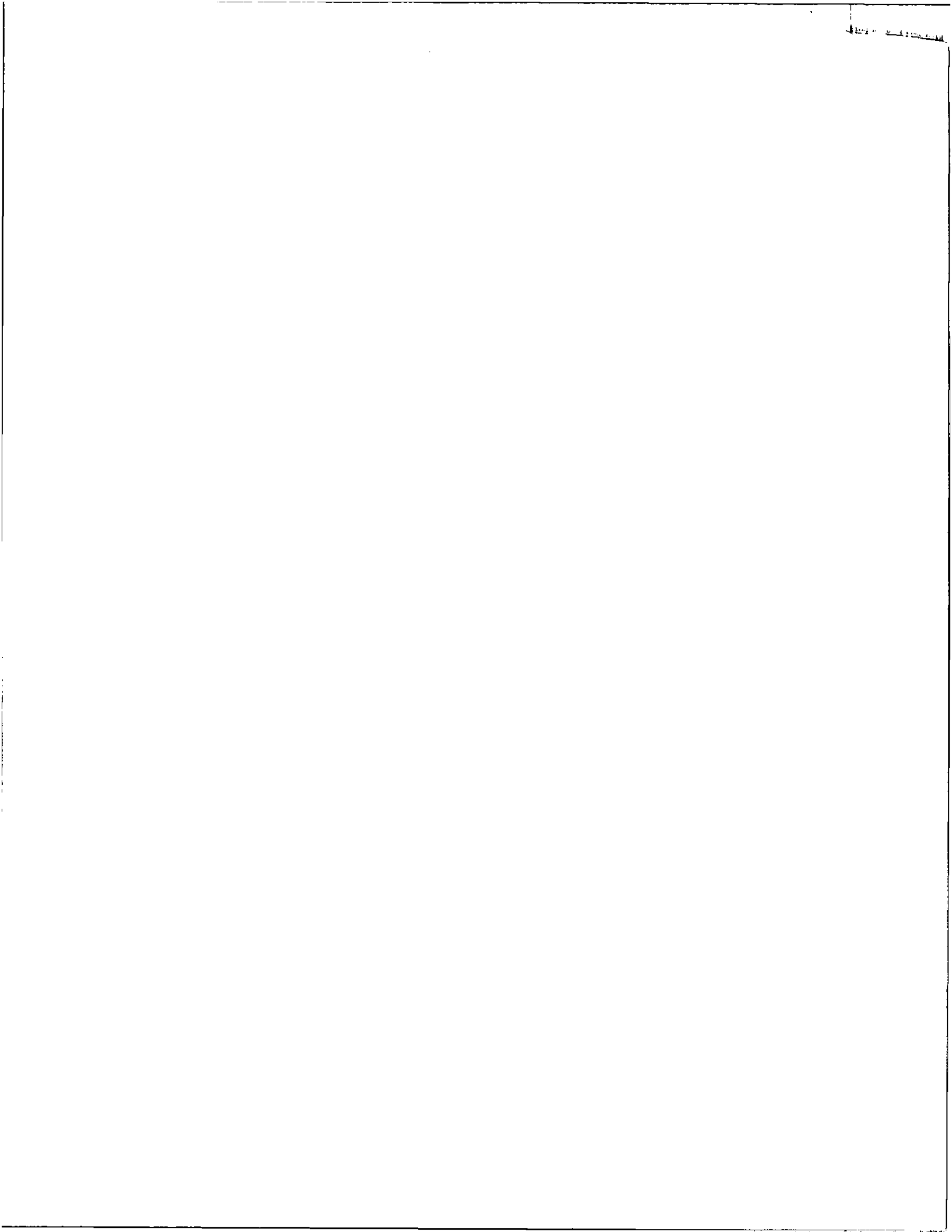
**Introduction**

The Scientific Council has agreed that research documents (SCR) and summary documents (SCS) 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 Index of Meeting Documents for 1979-84 was published in March 1985. The second NAFO issue of Index of Meeting Documents for 1985-89 was published in February 1991. This provisional index relates to all SCR documents (No. 1-136 and SCS documents (No. 1-22) for the calendar year 1993.

The list of SCR and SCS documents of 1993 in the first section of this document maintains the previous format and is arranged by consecutive document number.

Compilation of the 1993 author index generally follows guidelines that were used in preparing the Index of Meeting Documents for 1979-84 and 1985-89. Each of the research and summary documents is identified by its 3-character code (i.e. 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.

The 1993 subject index follows the same format as the author index. However, it differs from subject indexes prior to 1988 in that the text between parentheses is not altered from that used in the author index.



## LIST OF RESEARCH AND SUMMARY DOCUMENTS, 1993

## RESEARCH DOCUMENTS (SCR)

| SCR No. | Ser. # | Author(s) and Title  |
|---------|--------|--|
| 93/1*   | N2176  | SIGAEV, I. K. Oceanographic conditions in some areas of the Northwest Atlantic in 1992. (5 pages)  |
| 93/2*   | N2177  | RIKHTER, V. A. Variation in abundance of the Scotian Shelf silver hake and some other Gadidae in the Northwest Atlantic. (7 pages)   |
| 93/3*   | N2178  | RIKHTER, V. A. On dependence between pollock, cod and haddock by-catches and Soviet CPUE estimates for the Nova Scotian silver hake between 1977 and 1990. (4 pages)           |
| 93/4*   | N2179  | RIKHTER, V. A. On reliability of independent silver hake abundance indices in the Scotian Shelf area. (6 pages)  |
| 93/5*   | N2180  | GASIUKOV, P. S. On the stabilization of commercial fishes stock estimates obtained by means of the adaptive approach. (15 pages)   |
| 93/6*   | N2181  | GASIUKOV, P. S. Status of silver hake stocks in NAFO Divisions 4VWX in 1992 and TAC for 1994. (15 pages)   |
| 93/7*   | N2182  | VINOGRADOV, V. I. On hake feeding related to distribution of food organisms in the Scotian Shelf area in 1988, 1990. (13 pages)  |
| 93/8*   | N2185  | STEIN, M. Climatic conditions around Greenland, 1992. (13 pages)   |
| 93/9*   | N2186  | BUCH, E. Oceanographic conditions at West Greenland, 1992. (7 pages)   |
| 93/10*  | N2187  | MOROZOVA, G. N. Distribution of yellowtail flounder ( <i>Limanda ferruginea</i> ) on the Grand Bank of Newfoundland by the data from Russian surveys, 1971-1991. (8 pages)     |
| 93/11*  | N2188  | VASKOV, A. A., and T. O. IVANOVA. Stock assessment of redfish in Division 3M by the data from 1992 trawl-acoustic survey. (7 pages + Addendum 2 pages)                         |
| 93/12*  | N2189  | SAVVATIMSKY, P. I. Results of investigations of roundnose grenadier in NAFO Subareas 0, 2 and Division 3K in 1971-1992. (8 pages)  |
| 93/13*  | N2190  | SAVVATIMSKY, P. I., and S. A. KUZMIN. On by-catches of cod during surveys on redfish in NAFO Divisions 3L, 3N and 3O in 1988-1991. (8 pages)                                   |
| 93/14*  | N2191  | GERASIMOVA, O. V., and S. A. KUZMIN. Spatial and functional structure of cod trophic relations on the Newfoundland Shelf in spring-summer season. (18 pages)                   |
| 93/15*  | N2192  | GORCHINSKY, K. V. Results from Greenland halibut assessment in Divisions 0B, 2GH by the data from 1992 trawl survey. (7 pages)   |
| 93/16*  | N2193  | DE CÁRDEÑAS, E., E. RODRÍGUEZ-MARÍN, F. SABORIDO, M. CARNEIRO, and J. GIL. Preliminary results of European cod tagging programme in NAFO Division 3M (second year). (29 pages) |
| 93/17*  | N2194  | JUNQUERA, S. Feeding cycles of the Greenland halibut ( <i>Reinhardtius hippoglossoides</i> ) in the Flemish Pass area in relation to catch rates (1991-92). (11 pages)         |

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\* Scientific Council Meeting, 2-16 June 1993

- 93/18<sup>a</sup> N2195 RODRÍGUEZ-MARÍN, E., A. PUNZÓN, and J. PAZ. Greenland halibut (*Reinhardtius hippoglossoides*) feeding in Flemish Pass NAFO Divisions 3LM. (9 pages)
- 93/19<sup>a</sup> N2196 VAZQUEZ, A. Results from bottom trawl survey of Flemish Cap in July 1992. (22 pages)
- 93/20<sup>a</sup> N2197 CASAS, J. M., and G. PÉREZ-GÁNDARAS. Is otolith growth representative of cohort growth? (10 pages)
- 93/21<sup>a</sup> N2198 MILLER, D. S. Results from an acoustic survey for capelin in Divisions 3NO in 1992. (5 pages)
- 93/22<sup>a,b</sup> N2199 SAINZA, C. Northern shrimp (*Pandalus borealis*) stock on Flemish Cap. (5 pages)
- 93/23<sup>a,b</sup> N2200 SABORIDO-REY, F. Osteological differences in species of *Sebastes* on Flemish Cap. (9 pages)
- 93/24<sup>a</sup> N2201 SABORIDO-REY, F. Distribution, abundance and biomass trends in the Genus *Sebastes* on Flemish Cap (Div. 3M). (12 pages)
- 93/25<sup>a</sup> N2202 ZAMARRO, J., S. CERVIÑO, and M. GONZALEZ. Identification of female cod (*Gadus morhua*) from Flemish Cap (Northwest Atlantic) at the beginning of ripening. (18 pages)
- 93/26<sup>a</sup> N2203 RÄTZ, H. J. Abundance and present length structure of demersal fish stocks off West Greenland (Divisions 1B-1F, 0-400 m). (10 pages)
- 93/27<sup>a</sup> N2207 BENWAY, R. L., J. W. JOSSI, and C. A. GRISWOLD. Surface and bottom temperatures and surface salinities: New York to Gulf Stream, Massachusetts to Cape Sable, N.S. 1992. (15 pages)
- 93/28<sup>a</sup> N2208 BAKANEV, V. S. Results from acoustic capelin surveys in NAFO Divisions 2J3K in 1992. (4 pages)
- 93/29<sup>a</sup> N2209 ATKINSON, D. B. Some observations on the biomass and abundance of fish captured during stratified-random bottom trawl surveys in NAFO Divisions 2J3KL, fall 1981-1991. (18 pages)
- 93/30<sup>a,b</sup> N2210 ANDERSON, J. T., E. L. DALLEY, and J. E. CARSCADDEN. Distribution and abundance of pelagic 0-group cod in inshore and offshore areas for the northern cod stock (NAFO 2J3KL). (24 pages)
- 93/31<sup>a,b</sup> N2211 PEPIN, P., and S. M. CARR. Morphological, meristic and genetic analysis of stock structure in juvenile Atlantic cod (*Gadus morhua*) from the Newfoundland Shelf. (12 pages)
- 93/32<sup>a,b</sup> N2212 ANDERSON, J., and E. DALLEY. Inshore/offshore distributions and abundances of pelagic 0-group cod in NAFO Divisions 3K and 3L in fall of 1991 and 1992. (6 pages)
- 93/33<sup>a,b</sup> N2213 NARAYANAN, S., J. W. BAIRD, C. A. BISHOP, and G. R. LILLY. Climatic effects on cod distribution deduced from trawl surveys. (8 pages)
- 93/34<sup>a,b</sup> N2214 STENSON, G. B. The status of pinnipeds in the Newfoundland region. (4 pages)
- 93/35<sup>a,b</sup> N2215 DALLEY, E. L., and J. T. ANDERSON. Distribution and abundance of demersal juvenile cod from inshore to offshore locations on the northern Grand Bank and NE Newfoundland Shelf in December 1992. (9 pages)
- 93/36<sup>a,b</sup> N2216 LAWSON, J. W., G. B. STENSON, and D. G. MCKINNON. Diet of harp seals (*Phoca groenlandica*) in 2J3KL during 1991-93. (15 pages + 1 Corrigendum)

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<sup>a</sup> Scientific Council Meeting, 2-16 June 1993.

<sup>b</sup> Scientific Council Annual Meeting, 7-10 September 1993.

- 93/37<sup>a,b</sup> N2217 SHELTON, P. A., and M. J. MORGAN. An analysis of NAFO Divisions 2J3KL cod spawner biomass and recruitment. (14 pages)
- 93/38<sup>a,b</sup> N2218 MYERS, R. A., K. F. DRINKWATER, N. J. BARROWMAN, and J. W. BAIRD. Salinity and recruitment of Atlantic cod (*Gadus morhua*) in the Newfoundland Region. (12 pages)
- 93/39<sup>a,b</sup> N2219 MYERS, R. A., G. MERTZ, and C. A. BISHOP. Cod spawning in relation to physical and biological cycles of the northern Northwest Atlantic. (15 pages)
- 93/40<sup>b</sup> N2220 VINOGRADOV, V. I. On the problem of feeding, diurnal, annual food ration and balance for silver hake population in the Scotian Shelf area. (23 pages)
- 93/41<sup>a,b</sup> N2221 HUTCHINGS, J. A., and R. A. MYERS. The timing of cod reproduction interannual variability and the influence of temperature. (13 pages)
- 93/42<sup>a,b</sup> N2222 HUTCHINGS, J. A., R. A. MYERS, and G. R. LILLY. Graphic variation in the spawning of Atlantic cod, *Gadus morhua*, in the Northwest Atlantic. (12 pages)
- 93/43<sup>a,b</sup> N2223 HUTCHINGS, J. A., and R. A. MYERS. The effect of age on the seasonality of maturation and spawning of Atlantic cod, *Gadus morhua*, in the Northwest Atlantic. (9 pages)
- 93/44<sup>a</sup> N2225 PETRIE, B., and K. DRINKWATER. The influence of the Labrador current on the ocean climate of the Scotian Shelf and the Gulf of Maine. (15 pages)
- 93/45<sup>a,b</sup> N2226 STENSON, G. B., and D. J. KAVANAGH. Distribution of harp and hooded seals in offshore waters of Newfoundland. (13 pages)
- 93/46<sup>a</sup> N2227 GLENN, G. F. Marine Environmental Data Service Report for 1992. (16 pages)
- 93/47<sup>a</sup> N2228 MURPHY, E. F., and C. A. BISHOP. Cod in Divisions 2J+3KL - estimates of biomass and age composition for the portion of the stock in the NAFO Regulatory Area. (8 pages, revised)
- 93/48<sup>a,b</sup> N2229 RØNNOW, B. M. A short presentation of hydrographic data sampled during the shrimp surveys in 1990 and 1992 in Denmark Strait. (7 pages)
- 93/49<sup>a</sup> N2230 DRINKWATER, K. F., and R. A. MYERS. Investigations of the mean, seasonal and interannual variability in the position of the north wall of the Gulf Stream 45°W to 75°W. (6 pages)
- 93/50<sup>a</sup> N2231 DRINKWATER, K. F. Overview of environmental conditions in the Northwest Atlantic in 1992. (33 pages)
- 93/51<sup>a</sup> N2232 SKÚLADÓTTIR, U. The Icelandic shrimp fishery (*Pandalus borealis*) in the Denmark Strait in 1992 and early 1993. (7 pages)
- 93/52<sup>a</sup> N2235 BECH, G. Survey biomass and abundance of Greenland halibut (*Reinhardtius hippoglossoides*) and redfish (*Sebastes* spp.) in Greenland trawl survey 1992 (NAFO Subarea 1). (8 pages)
- 93/53<sup>a</sup> N2236 BOJE, J., and N.-R. HAREIDE. Trial deepwater longline fishery in the Davis Strait, May-June 1992. (6 pages)
- 93/54<sup>a</sup> N2237 LILLY, G. R., and D. J. DAVIS. Changes in the distribution of capelin in Divisions 2J, 3K and 3L in the autumns of recent years, as inferred from bottom-trawl by-catches and cod stomach examinations. (14 pages)

<sup>a</sup> Scientific Council Meeting, 2-16 June 1993.

<sup>b</sup> Scientific Council Annual Meeting, 7-10 September 1993.

- 93/55<sup>a,b</sup> N2238 LILLY, G. R. The food of cod in Divisions 2J, 3K and 3L during the autumns of 1978-1992. (14 pages)
- 93/56<sup>a,b</sup> N2239 BISHOP, C. A., and J. W. BAIRD. Spatial and temporal variability in condition factors of 2J3KL cod. (15 pages + 1 Corrigendum)
- 93/57<sup>a,b</sup> N2240 MORGAN, M. J., C. A. BISHOP, and J. W. BAIRD. Temporal and spatial variation in age and length at maturity in 2J3KL cod. (8 pages)
- 93/58<sup>a</sup> N2241 SATANI, M., S. KAWAHARA, and O. JORGENSEN. Results of two stratified random bottom trawl surveys off West Greenland in 1992. (12 pages)
- 93/59<sup>a</sup> N2242 USHAKOV, N. G. On investigations of capelin from the Barents Sea. (4 pages)
- 93/60<sup>a,b</sup> N2243 CARLSSON, D. M., and P. KANNEWORFF. The commercial shrimp fishery in Denmark Strait in 1992 and early-1993. (23 pages)
- 93/61<sup>a</sup> N2244 DE CÁRDEÑAS, E., S. JUNQUERA, and A. VAZQUEZ. Abundance indices of Greenland halibut in deepwater fishing zones of NAFO Divisions 3LMN. (8 pages)
- 93/62<sup>a</sup> N2245 BOWERING, W. R., and D. POWER. An examination of spacial distribution of Greenland halibut in the Labrador-eastern Newfoundland area of the Canadian Northwest Atlantic based on research surveys. (11 pages)
- 93/63<sup>a</sup> N2246 SKÚLADÓTTIR, U. The catch statistics of the shrimp fishery (*Pandalus borealis*) in the Denmark Strait in the years 1980-1992. (12 pages)
- 93/64<sup>a</sup> N2248 CARLSSON, D. M., and P. KANNEWORFF. The shrimp fishery in NAFO Subarea 1 in 1992 and early-1993. (32 pages)
- 93/65<sup>a,b</sup> N2249 SKÚLADÓTTIR, U. The sexual maturity of female shrimp (*Pandalus borealis*) in the Denmark Strait in the years 1985-1992 and a comparison to the nearest Icelandic shrimp stocks in 1992. (7 pages)
- 93/66<sup>a</sup> N2250 CARLSSON, D. M., and P. KANNEWORFF. Stratified-random trawl survey for shrimp (*Pandalus borealis*) in Denmark Strait in 1992. (13 pages)
- 93/67<sup>a</sup> N2251 DE CÁRDEÑAS, E., and H. LASSEN. Effects of mesh size changes in the Flemish Cap cod fisheries. (9 pages)
- 93/68<sup>a,b</sup> N2252 ANDERSON, J. T. Distributions of juvenile cod in NAFO Divisions 2J3KL during fall, 1981-92, in relation to bathymetry and bottom temperatures. (18 pages)
- 93/69<sup>a</sup> N2253 MYERS, R. A., N. J. BARROWMAN, and J. A. HUTCHINGS. Depensatory recruitment and the collapse of fisheries. (9 pages)
- 93/70<sup>a</sup> N2254 CARLSSON, D. M., P. KANNEWORFF, D. G. PARSONS. Stratified-random trawl survey for shrimp (*Pandalus borealis*) in NAFO Subarea 0+1, 1992. (23 pages)
- 93/71<sup>a</sup> N2255 WALSH, S. J. Dynamics of juvenile American plaice populations on the Grand Banks, NAFO Divisions 3LNO. (21 pages)
- 93/72<sup>a</sup> N2256 CARLSSON, D. M., and P. KANNEWORFF. Stratified-random trawl survey for shrimp (*Pandalus borealis*) in inshore areas at West Greenland, NAFO Subarea 1, in 1992. (12 pages)

<sup>a</sup> Scientific Council Meeting, 2-16 June 1993.

<sup>b</sup> Scientific Council Annual Meeting, 7-10 September 1993.

- 93/73\* N2258 POWER, D. An assessment of Divisions 3LN redfish. (31 pages)
- 93/74\* N2259 ATKINSON, D. B., D. POWER, and D. W. KULKA. The roundnose grenadier (*Coryphaenoides rupestris*) fisheries in NAFO Subareas 2+3. (20 pages)
- 93/75\* N2260 BOWERING, W. R., W. B. BRODIE, and D. POWER. An evaluation of the status of the Greenland halibut resource in NAFO Subarea 2 and Divisions 3KLM. (29 pages)
- 93/76\* N2261 BRODIE, W. B., S. J. WALSH, D. POWER, and W. R. BOWERING. An assessment of the yellowtail flounder stock in Divisions 3LNO. (43 pages)
- 93/77\* N2262 GORCHINSKY, K., and D. POWER. An assessment of Division 3M redfish. (10 pages)
- 93/78\* N2263 PARSONS, D. G., and P. J. VEITCH. The Canadian fishery for Northern shrimp (*Pandalus borealis*) in Davis Strait, 1979-1992. (16 pages)
- 93/79\* N2264 SIEGSTAD, H. An estimate of shrimp discard from shrimp factory trawlers in Davis Strait, 1992. (8 pages)
- 93/80\* N2265 JØRGENSEN, O., and J. BOJE. An assessment of the Greenland halibut stock component in NAFO Subareas 0+1. (6 pages)
- 93/81\* N2266 CARLSSON, D. M., M. ANDERSEN, P. KANNEWORFF, D. G. PARSONS, and H. SIEGSTAD. Assessment of shrimp in Davis Strait (Subareas 0+1). (19 pages)
- 93/82\* N2267 GODINHO, M. L., and E. DE CÁRDEÑAS. An assessment of the American plaice stock in Division 3M. (10 pages)
- 93/83\* N2268 BOWERING, W. R., D. B. ATKINSON, D. POWER, and W. B. BRODIE. An evaluation of stock status of witch flounder in NAFO Divisions 3NO. (21 pages)
- 93/84\* N2269 SKÚLADÓTTIR, U., M. ANDERSEN, D. M. CARLSSON, P. KANNEWORFF, D. G. PARSONS, and H. SIEGSTAD. Assessment of shrimp in the Denmark Strait. (10 pages)
- 93/85\* N2270 VAZQUEZ, A. An assessment of the cod stock in NAFO Division 3M. (3 pages)
- 93/86\* N2271 BISHOP, C. A., E. F. MURPHY, M. B. DAVIS, J. W. BAIRD, and G. A. ROSE. An assessment of the cod stock in NAFO Divisions 2J+3KL. (51 pages)
- 93/87\* N2272 COLBOURNE, E. State-of-the-ocean, Grand Banks area (3L), mid-spring 1993, with a comparison to the mean. (15 pages)
- 93/88\* N2273 COLBOURNE, E. Oceanographic conditions during the annual fall groundfish survey in NAFO Divisions 2J3KL. (31 pages)
- 93/89\* N2275 RÄTZ, H. J. Redfish Subarea 1 (0-400 m): present stock abundance indices, species and length composition. (10 pages)
- 93/90\* N2276 DAVIS, M. B., D. STANSBURY, E. G. MURPHY, and C. A. BISHOP. An assessment of the cod stock in NAFO Divisions 3NO. (38 pages)
- 93/91\* N2277 BRODIE, W. B., D. POWER, and M. J. MORGAN. An assessment of the American plaice stock in NAFO Divisions 3LNO. (60 pages)

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\* Scientific Council Meeting, 2-16 June 1993.

- 93/92<sup>b</sup> N2282 CADIGAN, N. G., and W. M. HICKEY. Analysis of subsampled catches from trouser trawl size selectivities studies. (10 pages)
- 93/93<sup>b</sup> N2283 S. KUIKKA, P. SUURONEN and R. PARMANNE. Impacts of increased codend mesh size on the catches and fishery of herring in the northern Baltic Sea - uncertainties from the ecosystem and markets. (11 pages)
- 93/94<sup>b</sup> N2285 BOULOS, D. L., N. G. CADIGAN, and W. M. HICKEY. Combining selectivities from multiple trouser trawl tows. (12 pages)
- 93/95<sup>b</sup> N2287 DEALTERIS, J., and R. RIEDEL. Effect of size selection within and between fishing gear types of the yield and spawning stocks biomass per recruit and catch per unit effort for a cohort of an idealized groundfish. (23 pages)
- 93/96<sup>b</sup> N2288 REIS, E. G., and M. G. PAWSON. Characteristics of the fish's body affecting gillnet selectivity. (25 pages)
- 93/97<sup>b</sup> N2289 REIS, E. G., and M. G. PAWSON. Gill-net selectivity of bass and white croaker using commercial catch data. (23 pages)
- 93/98<sup>b</sup> N2290 CLAY, P. M. "Management regions, statistical areas and fishing grounds: criteria for dividing up the sea" WORK IN PROGRESS. (19 pages)
- 93/99<sup>b</sup> N2291 STEWART, P. A. M., and A. W. NEWTON. Observations on the size composition of haddock and whiting catches taken by the different fishing methods used in the Scottish North Sea demersal fisheries. (22 pages)
- 93/100<sup>b</sup> N2293 GORCHINSKY, K. V., S. F. LISOVSKY, and M. K. SADOKHIN. Selectivity of bottom trawls during the fishery for redfish on the Flemish Cap Bank. (9 pages)
- 93/101<sup>b</sup> N2294 SKÚLADÓTTIR, U., and S. EINARSSON. The Icelandic shrimp (*Pandalus borealis*) fishery at the Flemish Cap in 1993, with a preliminary analysis of the age structure. (9 pages)
- 93/102<sup>b</sup> N2295 SHOWELL, M. A., R. BRANTON, M. C. BOURBONNAIS, and R. G. HALLIDAY. Status of the Scotian Shelf silver hake populations in 1992 with projections to 1994. (24 pages)
- 93/103<sup>b</sup> N2296 NICOLAJSEN, A. Assessment of the shrimp stock on Flemish Cap (Division 3M) for 1993. (7 pages)
- 93/104<sup>b</sup> N2297 SAINZA, C. Northern shrimp (*Pandalus borealis*) stock on Flemish Cap in June-July 1993. (8 pages)
- 93/105<sup>b</sup> N2298 LILLY, G. R. Sizes, distribution and relative abundance of northern shrimp (*Pandalus borealis*) on Flemish Cap (Division 3M) in 1978-1984, as inferred from analysis of cod stomach contents. (10 pages)
- 93/106<sup>b</sup> N2299 COLBOURNE, E. Environmental conditions in Atlantic Canada, mid-summer 1993, with comparisons to the long-term mean. (19 pages)
- 93/107<sup>b</sup> N2300 COLBOURNE, E. Oceanographic conditions on the Flemish Cap during the summer 1993, with comparisons to the long-term average. (16 pages)
- 93/108<sup>b</sup> N2301 HALLIDAY, R. G. An analysis of scientific advice and TAC levels for the Scotian Shelf (Divisions 4VWX) silver hake stock. (8 pages)
- 93/109<sup>b</sup> N2302 CASEY, J. Estimating discards using selectivity data: the effects of mesh size changes in the mixed demersal fisheries in the Irish Sea. (43 pages)

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<sup>b</sup> Scientific Council Annual Meeting, 7-10 September 1993.



- 93/110<sup>b</sup> N2304 SIEGSTAD, H. The Greenland fishery for northern shrimp (*Pandalus borealis*) on Flemish Cap, May-August 1993. (5 pages)
- 93/111<sup>b</sup> N2305 PARSONS, D. G., P. J. VEITCH, and E. M. SEWARD. The Canadian fishery for northern shrimp (*Pandalus borealis*) on Flemish Cap (NAFO Division 3M), 1993. (10 pages)
- 93/112<sup>b</sup> N2306 PARSONS, D. G., and P. J. VEITCH. Age and growth of northern shrimp (*Pandalus borealis*) on Flemish Cap (NAFO Division 3M). (11 pages)
- 93/113<sup>b</sup> N2307 CHRISTENSEN, S., and H. LASSEN. Optimal management of the Iceland-Greenland transboundary cod stock. (15 pages)
- 93/114<sup>b</sup> N2308 HASSAGER, T. K., and H. LASSEN. Why skippers skip grounds: a probabilistic decision model for whether a skipper continues fishing on the same or change to some other ground, based on data from the West Greenland shrimp fishery. (17 pages)
- 93/115<sup>b</sup> N2309 MURAWSKI, S. A. Factors influencing by-catch and discard rates: analyses from multispecies/multifishery sea sampling. (17 pages)
- 93/116<sup>b</sup> N2310 CHRISTENSEN, S. On management of varying shrimp stock in the Davis Strait. (20 pages)
- 93/117<sup>b</sup> N2311 ENGÅS, A., S. LØKKEBORG, A. V. SOLDAL, and E. ONA. Comparative fishing for cod and haddock with commercial trawl and longline at two different stock levels. (14 pages)
- 93/118<sup>b</sup> N2312 NEDREAAS, K., A. V. SOLDAL, and Å. BJORDAL. Performance and biological implications of a multi-gear fishery for Greenland halibut (*Reinhardtius hippoglossoides*). (15 pages)
- 93/119<sup>b</sup> N2313 SUURONEN, P., E. LEHTONEN, and V. TSCHERNIJ. Possibilities to increase the size-selectivity of a herring trawl by using a rigid sorting grid. (12 pages)
- 93/120<sup>b</sup> N2314 SHOWELL, M. Effect of mesh size/type on size distribution and catch rates for 1991 Scotian Shelf groundfish fisheries. (19 pages)
- 93/121<sup>b</sup> N2315 SINCLAIR, A. Seasonal components in technological interactions in Gulf of St. Lawrence shrimp and groundfish fisheries. (20 pages)
- 93/122<sup>b</sup> N2316 GABRIEL, W. L. Factors influencing technological interactions in Mid-Atlantic Bight groundfish fisheries. (12 pages)
- 93/123<sup>b</sup> N2317 FRYER, R. J., and J. G. SHEPHERD. Models of codend selection. (12 pages)
- 93/124<sup>b</sup> N2318 HOKENSON, S. R., and M. R. ROSS. Finfish by-catch mortality in the Gulf of Maine northern shrimp fishery. (4 pages)
- 93/125<sup>b</sup> N2319 SINCLAIR, A. Estimating fleet specific F given catch quotas. (4 pages)
- 93/126<sup>b</sup> N2321 MURAWSKI, S. A. Dynamic models of technological interaction: man as a prudent predator. (8 pages)
- 93/127<sup>b</sup> N2322 BALFOUR, D. A Canadian northern shrimp selectivity program 1993. (9 pages)
- 93/128<sup>c</sup> N2340 PARSONS, D. G., and P. J. VEITCH. The Canadian fishery for northern shrimp (*Pandalus borealis*) in Davis Strait, 1979-1993. (14 pages)

<sup>b</sup> Scientific Council Annual Meeting, 7-10 September 1993.

<sup>c</sup> Scientific Council Meeting, 19-23 November 1993.

- 93/129<sup>c</sup> N2341 ANDERSEN, M., D. M. CARLSSON, and P. KANNEWORFF. Stratified-random trawl survey for shrimp (*Pandalus borealis*) in Disko Bay, West Greenland, 1993. (13 pages)
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- 93/131<sup>c</sup> N2343 CARLSSON, D. M., P. KANNEWORFF, and H. SIEGSTAD. The commercial shrimp fishery in Denmark Strait January to October 1993. (24 pages)
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- 93/135<sup>c</sup> N2347 SKÚLADÓTTIR, U. The Icelandic shrimp fishery (*Pandalus borealis*) in the Denmark Strait in 1992 and 1993. (2 pages)
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<sup>c</sup> Scientific Council Meeting, 19-23 November 1993.

#### SUMMARY DOCUMENTS (SCS)

| SCS No.             | Ser. # | Author(s) and Title   |
|---------------------|--------|---|
| 93/1 <sup>a</sup>   | N2167  | NAFO SECRETARIAT. Provisional index and list of titles of research and summary documents of 1992. (29 pages)                                  |
| 93/2 <sup>a</sup>   | N2168  | NAFO SECRETARIAT. Provisional index of Journal of Northwest Atlantic Fishery Science and NAFO Scientific Council Studies, 1987-93. (32 pages) |
| 93/3 <sup>a</sup>   | N2169  | RAWSON, B. Canadian request for scientific advice on management in 1994 of certain stocks in Subareas 0 to 4. (2 pages)                       |
| 93/4 <sup>a</sup>   | N2170  | LEMICHE, E. Denmark (Greenland) request for scientific advice on management of certain stocks in 1994. (2 pages)                              |
| 93/5 <sup>a</sup>   | N2171  | NAFO SECRETARIAT. Historical catches of selected species by stock area and country for the period 1981-91. (26 pages)                         |
| 93/6 <sup>a,b</sup> | N2172  | BOUDREAU, P., M. M. ROBERGE, and J.-D. LAMBERT. Canadian research report for 1992. (19 pages)   |

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<sup>b</sup> Scientific Council Annual Meeting, 7-10 September 1993.

- 93/7<sup>a</sup> N2173 NAFO SECRETARIAT. Tagging activities reported for the Northwest Atlantic in 1992. (2 pages)
- 93/8<sup>a</sup> N2174 NAFO SECRETARIAT. Report of the ICES/NAFO Working Group on harp and hooded seals, SevPINRO, Archangelsk, Russia - 5-12 October 1992. (24 pages)
- 93/9<sup>a</sup> N2175 NAFO SECRETARIAT. List of biological sampling data for 1991. (22 pages)
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- 93/12<sup>a</sup> N2204 CORNUS, P., H.-J. RÄTZ, and M. STEIN. German research report for 1992. (3 pages)
- 93/13<sup>a</sup> N2205 YOKAWA, K. Japanese research report for 1992. (3 pages)
- 93/14<sup>a</sup> N2206 VAZQUEZ, A., and S. IGLESIAS. Spanish research report for 1992. (7 pages)
- 93/15<sup>a</sup> N2224 AVILA DE MELO, A., M. L. M. GODINHO, R. R. ALPOIM, and E. SANTOS. Portuguese research report for 1992. (48 pages)
- 93/16<sup>a</sup> N2247 LUND, H., and M. ANDERSEN. Denmark/Greenland research report for 1992. (5 pages)
- 93/17<sup>a,b</sup> N2257 NAFO. Report of Scientific Council, 2-16 June 1993 Meeting. (154 pages)
- 93/18<sup>a</sup> N2274 NAFO SECRETARIAT. A compilation of research vessel surveys on a stock-by-stock basis. (21 pages)
- 93/19<sup>b</sup> N2292 SERCHUK, F. M. United States research report for 1992. (4 pages)
- 93/20<sup>b</sup> N2320 NAFO. Report of Scientific Council, 7-10 September Meeting. (29 pages)
- 93/21<sup>c</sup> N2348 NAFO. Report of Scientific Council, 19-23 November 1993. (19 pages)
- 93/22 N2250 NAFO SECRETARIAT. Provisional nominal catches in the Northwest Atlantic, 1992. (45 pages)

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<sup>a</sup> Scientific Council Meeting, 2-16 June 1993.

<sup>b</sup> Scientific Council Annual Meeting, 7-10 September 1993.

<sup>c</sup> Scientific Council Meeting, 19-23 November 1993.



## [A]

Abundance; abundance index

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 3 (influences of by-catches on Scotian Shelf S hake 1977-90)  
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 24 (dist., abund., & biomass of redfish on Flemish Cap)  
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 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)  
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 35 (dist. & abund. of juvenile cod on Nfld Shelf, 1992)  
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 52 (biomass & abundance of G halibut & redfish, 1992)  
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- SCR 93/ 6 (status of S hake in Div 4VWX in 1992 & TAC 1994)  
 12 (roundnose gr. investigations SA 0,2 & Div 3K, 1971-92)  
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 91 (assessment of American plaice in Div 3LNO)  
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 109 (estimating discards using selectivity data)  
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- SCS 93/ 3 (Canadian request for scientific advice for 1994)  
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 41 (interannual variab. in the timing of spawning cod)  
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 19 (bottom trawl survey, Flemish Cap, 1992)  
 20 (otolith growth vs cohort growth of Flemish Cap cod)  
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 52 (biomass & abundance of G halibut & redfish, 1992)  
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 58 (results of bottom trawl surveys off W Greenland, 1992)

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[B]

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 13 (by-catches of cod in Div 3LNO, 1988-91)  
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 54 (changes in autumn dist. of capelin, Div 2J3KL)  
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 15 (assessment of G halibut in Div 0B & 2GH, 1992)  
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 76 (assessment of yellowtail flounder in Div 3LNO)  
 77 (assessment of Div 3M redfish)  
 78 (Cdn fishery for shrimp in Davis St., 1979-92)  
 80 (assessment of G halibut in SA 0+1, Davis St.)  
 81 (assessment of shrimp in SA 0+1, Davis Strait)  
 82 (assessment of American plaice in Div 3M)  
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 136 (assessment of shrimp in SA 0+1, Davis St.)

- SCS 93/ 5 (historical catches for some stocks, 1981-91)  
 8 (report of ICES/NAFO Group on seals, Oct 1992)  
 22 (provisional nominal catches, 1992)

Climate

- SCR 93/ 8 (climatic conditions around Greenland, 1992)  
 9 (oceanographic conditions at W. Greenland, 1992)

Cod, Atlantic (*Gadus morhua*)

- SCR 93/ 2 (abundance of S hake & others on Scotian Shelf)  
 3 (influences of by-catches on Scotian Shelf S hake 1977-90)  
 13 (by-catches of cod in Div 3LNO, 1988-91)  
 14 (spatial & functional structure of cod, spring-summer)  
 16 (results of European cod tagging, Div 3M)  
 20 (otolith growth vs cohort growth of Flemish Cap cod)  
 25 (identification of female cod on Flemish Cap)  
 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)  
 31 (stock structure of juvenile cod on Nfld Shelf)  
 33 (effect of climate on dist. of cod by trawl surveys)  
 35 (dist. & abund. of juvenile cod on Nfld Shelf, 1992)  
 37 (cod spawner biomass & recruitment, Div 2J3KL)  
 38 (cod recruitment & salinity in Newfoundland region)  
 39 (physical & biol. cycles of cod spawning in N Atl.)  
 41 (interannual variab. in the timing of spawning cod)  
 42 (spawning locations of cod off Nfld-Labrador)  
 43 (influence of age on maturation & spawning of cod)



- SCR 93/ 47 (biomass & age comp. for cod in Div 2J3KL)  
 55 (food of cod in autumn, Div 2J3KL, 1978-92)  
 56 (variability of annual condition factors in cod, Div 2J3KL)  
 57 (variation in age & length at maturity in Div 2J3KL cod)  
 59 (investigations of capelin from Barents Sea)  
 68 (distribution of juvenile cod, Div 2J3KL, 1981-92)  
 86 (assessment of cod in Div 2J3KL)  
 87 (state of Grand Bank, 1993, compared to mean)  
 90 (assessment of cod in Div 3NO)  
 105 (dist. & abund. shrimp from cod stomachs, Div 3M, 1978-84)  
 106 (environmental conditions in Atl. Canada, 1993)  
 113 (optimal management of Iceland-Greenland cod stock)  
 117 (comparative fishing for cod & haddock with trawl & LL)  
 120 (mesh size/type on dist. & catch of groundfish on S. Shelf)  
 124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)  
 125 (estimating fleet specific fishing mortality)

#### Commercial fisheries

- SCR 93/ 5 (stabilization of stock estimates by ADAPT)

#### Currents (water circulation)

- SCR 93/ 16 (results of European cod tagging, Div 3M)  
 44 (influence of Labrador Current on ocean climate)  
 46 (MEDS report for 1992)  
 49 (mean, seasonal & interannual variability, Gulf Stream)  
 50 (overview of environmental conditions, 1992)  
 87 (state of Grand Bank, 1993, compared to mean)

#### Cusk (*Brosme brosme*)

- SCR 93/ 53 (trial deepwater longline fishery in Davis St., 1992)

### [D]

#### Davis Strait (see Atlantic Ocean, North)

#### Denmark

- SCR 93/ 58 (results of bottom trawl surveys off W Greenland, 1992)  
 110 (Greenland shrimp fishery on Flemish Cap, 1993)  
 113 (optimal management of Iceland-Greenland cod stock)  
 132 (trawl survey for shrimp, SA 0+1 offshore, 1993)

- SCS 93/ 4 (Denmark-Greenland request for sci. advice for 1994)  
 16 (Denmark/Greenland research report for 1992)

#### Denmark Strait (see Greenland, East)

#### Depth

- SCR 93/ 12 (roundnose gr. investigations SA 0,2 & Div 3K, 1971-92)

#### Discards (fish discarded at sea)

- SCR 93/ 78 (Cdn fishery for shrimp in Davis St., 1979-92)  
 79 (estimate of shrimp discard from trawls in Davis St., 1992)  
 81 (assessment of shrimp in SA 0+1, Davis Strait)  
 99 (size comp. of haddock & whiting in Scottish North Sea)  
 109 (estimating discards using selectivity data)  
 115 (factors influencing by-catch & discard rates)  
 124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)  
 128 (Canadian shrimp fishery in Davis St., 1979-93)

#### Distribution (see also Abundance)

- SCR 93/ 7 (analysis of hake feeding on Scotian Shelf 1988 & 1990)  
 10 (distribution of yellowtail on Grand Bank, 1971-91)  
 11 (assessment of redfishes by acoustics, Div 3M, 1992)  
 12 (roundnose gr. investigations SA 0,2 & Div 3K, 1971-92)  
 14 (spatial & functional structure of cod, spring-summer)  
 21 (acoustic survey for capelin, Div 3NO, 1992)  
 24 (dist., abund., & biomass of redfish on Flemish Cap)  
 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)  
 32 (dist. & abund. of 0-group cod, Div 3KL, 1991+92)  
 33 (effect of climate on dist. of cod by trawl surveys)  
 35 (dist. & abund. of juvenile cod on Nfld Shelf, 1992)  
 45 (distribution of seals offshore of Newfoundland)  
 54 (changes in autumn dist. of capelin, Div 2J3KL)  
 55 (food of cod in autumn, Div 2J3KL, 1978-92)  
 58 (results of bottom trawl surveys off W Greenland, 1992)  
 62 (distribution of G halibut, Labrador-E. Nfld)  
 64 (shrimp fishery in SA 1, 1992-93)  
 68 (distribution of juvenile cod, Div 2J3KL, 1981-92)  
 71 (juvenile American plaice on the Grand Bank, Div 3LNO)  
 74 (roundnose grenadier fisheries in SA 2+3)  
 83 (stock status of witch flounder in Div 3NO)  
 105 (dist. & abund. shrimp from cod stomachs, Div 3M, 1978-84)  
 110 (Greenland shrimp fishery on Flemish Cap, 1993)  
 111 (Canadian shrimp fishery on Flemish Cap, 1993)  
 118 (experiments in a multi-gear fishery for G. halibut)  
 120 (mesh size/type on dist. & catch of groundfish on S. Shelf)  
 121 (technological interactions in Gulf of St. Lawrence)  
 130 (shrimp fishery in SA 1, Jan-Oct 1993)  
 131 (shrimp fishery in Denmark Strait, Jan-Oct 1993)  
 132 (trawl survey for shrimp, SA 0+1 offshore, 1993)

- SCS 93/ 8 (report of ICES/NAFO Group on seals, Oct 1992)

### [E]

#### East Greenland Area (see Greenland, East)

#### Echo-sounding (see Acoustics)

#### Ecology (see Environment)

#### Effort (see Catch)

#### Environment (see also specific subject headings)

- SCR 93/ 9 (oceanographic conditions at W. Greenland, 1992)  
 33 (effect of climate on dist. of cod by trawl surveys)  
 46 (MEDS report for 1992)  
 50 (overview of environmental conditions, 1992)

#### Environmental Subcommittee (NAFO)

- SCS 93/ 17 (report of Scientific Council, Jun 1993)

### [F]

#### Faroe Islands

- SCR 93/103 (assessment of shrimp, Div 3M, 1993)

Feeding, Food

- SCR 93/ 7 (analysis of hake feeding on Scotian Shelf 1988 & 1990)  
 14 (spatial & functional structure of cod, spring-summer)  
 16 (results of European cod tagging, Div 3M)  
 17 (feeding cycles of G halibut re catch rates, 1991-92)  
 18 (G. halibut feeding in Div 3LM)  
 36 (diet of harp seals, Div 2J3KL, 1991-93)  
 40 (food & feeding of silver hake on Scotian Shelf)  
 55 (food of cod in autumn, Div 2J3KL, 1978-92)

- SCS 93/ 8 (report of ICES/NAFO Group on seals, Oct 1992)

Fishing effort (see catch)Fishing gear (see also specific gear)

- SCR 93/ 53 (trial deepwater longline fishery in Davis St., 1992)  
 67 (effect of mesh size changes on Flemish Cap cod)  
 73 (assessment of Div 3LN redfish)  
 92 (analysis of catches from trouser trawl experiment)  
 93 (impact of mesh size on herring in Baltic Sea)  
 94 (analysis of multiple tow trouser trawl experiment)  
 95 (effect of size selection within & between gears)  
 96 (char. of fish affecting gillnet selectivity)  
 97 (gillnet selectivity of bass & white croaker)  
 99 (size comp. of haddock & whiting in Scottish North Sea)  
 100 (selectivity of trawls for redfish on Flemish Cap)  
 117 (comparative fishing for cod & haddock with trawl & LL)  
 118 (experiments in a multi-gear fishery for G. halibut)  
 119 (increasing size selectivity of herring trawl by using grid)  
 125 (estimating fleet specific fishing mortality)

Fishing grounds

- SCR 93/ 98 (criteria for dividing up the sea)  
 114 (model to fish on same grounds or switch, based on shrimp)

Flemish Cap (Div. 3M) (see also Grand Bank)

- SCR 93/ 11 (assessment of redfishes by acoustics, Div 3M, 1992)  
 16 (results of European cod tagging, Div 3M)  
 19 (bottom trawl survey, Flemish Cap, 1992)  
 20 (otolith growth vs cohort growth of Flemish Cap cod)  
 22 (northern shrimp stock on Flemish Cap, 1992)  
 24 (dist., abund., & biomass of redfish on Flemish Cap)  
 25 (identification of female cod on Flemish Cap)  
 77 (assessment of Div 3M redfish)  
 82 (assessment of American plaice in Div 3M)  
 85 (assessment of cod in Div 3M)  
 100 (selectivity of trawls for redfish on Flemish Cap)  
 101 (Iceland shrimp fishery & age struc. on Flemish Cap, 1993)  
 103 (assessment of shrimp, Div 3M, 1993)  
 104 (northern shrimp stock on Flemish Cap, Jun-Jul, 1993)  
 105 (dist. & abund. shrimp from cod stomachs, Div 3M, 1978-84)  
 107 (oceanographic conditions on Flemish Cap, 1993)  
 110 (Greenland shrimp fishery on Flemish Cap, 1993)  
 111 (Canadian shrimp fishery on Flemish Cap, 1993)  
 112 (age & growth of shrimp on Flemish Cap)

Flemish Pass

- SCR 93/ 17 (feeding cycles of G halibut re catch rates, 1991-92)

Flounder, winter (*Pseudopleuronectes americanus*)

- SCR 93/124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)

Flounder, witch (*Glyptocephalus cynoglossus*)

- SCR 93/124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)

Flounder, yellowtail (*Limanda ferruginea*)

- SCR 93/ 10 (distribution of yellowtail on Grand Bank, 1971-91)  
 76 (assessment of yellowtail flounder in Div 3LNO)  
 124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)

Food (see Feeding)

[G]

Gadus morhua (see Cod, Atlantic)Gear selectivity

- SCR 93/ 92 (analysis of catches from trouser trawl experiment)  
 94 (analysis of multiple tow trouser trawl experiment)  
 95 (effect of size selection within & between gears)  
 96 (char. of fish affecting gillnet selectivity)  
 97 (gillnet selectivity of bass & white croaker)  
 99 (size comp. of haddock & whiting in Scottish North Sea)  
 100 (selectivity of trawls for redfish on Flemish Cap)  
 109 (estimating discards using selectivity data)  
 117 (comparative fishing for cod & haddock with trawl & LL)  
 118 (experiments in a multi-gear fishery for G. halibut)  
 119 (increasing size selectivity of herring trawl by using grid)  
 123 (models of codend selection)  
 127 (Canadian shrimp selectivity program, 1993)

Genetics

- SCR 93/ 31 (stock structure of juvenile cod on Nfld Shelf)

Georges Bank (Div. 5Z) (see also New England area)

- SCR 93/15 (factors influencing by-catch & discard rates)

- SCS 93/ 19 (United States research report for 1992)

Germany

- SCS 93/ 12 (German research report for 1992)

Gillnet (see also Fishing gear)

- SCR 93/18 (experiments in a multi-gear fishery for G. halibut)

Glyptocephalus cynoglossus (see Flounder, witch)Golden redfish (see Redfish, golden)Grand Bank (Div. 3LNO including inshore)

- SCR 93/ 1 (oceanographic conditions in NW Atlantic, 1992)  
 10 (distribution of yellowtail on Grand Bank, 1971-91)  
 13 (by-catches of cod in Div 3LNO, 1988-91)  
 14 (spatial & functional structure of cod, spring-summer)  
 21 (acoustic survey for capelin, Div 3NO, 1992)  
 38 (cod recruitment & salinity in Newfoundland region)  
 41 (interannual variab. in the timing of spawning cod)  
 42 (spawning locations of cod off Nfld-Labrador)

- SCR 93/ 54 (changes in autumn dist. of capelin, Div 2J3KL)  
 71 (juvenile American plaice on the Grand Bank, Div 3LNO)  
 76 (assessment of yellowtail flounder in Div 3LNO)  
 83 (stock status of witch flounder in Div 3NO)  
 87 (state of Grand Bank, 1993, compared to mean)  
 90 (assessment of cod in Div 3NO)  
 91 (assessment of American plaice in Div 3LNO)

Greenland (see Denmark and specific area)

Greenland, East (Denmark Strait)

- SCR 93/ 8 (climatic conditions around Greenland, 1992)  
 48 (hydrographic data sampled during surveys, 1990+92)  
 51 (Icelandic shrimp fishery in Denmark Strait, 1992-93)  
 60 (commercial shrimp fishery in Denmark Strait, 1992-93)  
 63 (catch stats of shrimp in Denmark St., 1980-92)  
 65 (sexual mat. of female Denmark St. shrimp vs Iceland)  
 66 (trawl survey for shrimp in Denmark Strait, 1992)  
 84 (assessment of shrimp in Denmark Strait)  
 131 (shrimp fishery in Denmark Strait, Jan-Oct 1993)  
 133 (catch stats of shrimp in Denmark St., 1980-93)  
 134 (assessment of shrimp in Denmark Strait)  
 135 (Iceland shrimp fishery in Denmark St., 1992-93)

Greenland, West (Subarea 1)

- SCR 93/ 8 (climatic conditions around Greenland, 1992)  
 9 (oceanographic conditions at W. Greenland, 1992)  
 26 (abundance & length of demersal fish off W. Greenl.)  
 52 (biomass & abundance of G halibut & redfish, 1992)  
 58 (results of bottom trawl surveys off W Greenland, 1992)  
 81 (assessment of shrimp in SA 0+1, Davis Strait)  
 129 (trawl survey for shrimp in Disko Bay, W Greenl., 1993)

Greenland halibut (see Halibut, Greenland)

Grenadier, roughhead (*Macrourus berglax*)

- SCR 93/ 53 (trial deepwater longline fishery in Davis St., 1992)

Grenadier, roundnose (*Coryphaenoides rupestris*)

- SCR 93/ 12 (roundnose gr. investigations SA 0,2 & Div 3K, 1971-92)  
 58 (results of bottom trawl surveys off W Greenland, 1992)  
 74 (roundnose grenadier fisheries in SA 2+3)

Groundfish (see also common names)

- SCR 93/21 (technological interactions in Gulf of St. Lawrence)

Growth

- SCR 93/ 20 (otolith growth vs cohort growth of Flemish Cap cod)  
 96 (char. of fish affecting gillnet selectivity)  
 112 (age & growth of shrimp on Flemish Cap)

Gulf of Maine (Div. 5Y)

- SCR 93/ 27 (water temperature & salinity, G. of Maine, 1992)  
 44 (influence of Labrador Current on ocean climate)  
 124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)

Gulf of St. Lawrence (Div. 4RSTV)

- SCR 93/ 44 (influence of Labrador Current on ocean climate)  
 121 (technological interactions in Gulf of St. Lawrence)

Gulf Stream (see also hydrography and oceanography)

- SCR 93/ 49 (mean, seasonal & interannual variability, Gulf Stream)

[H]

Haddock (*Melanogrammus aeglefinus*)

- SCR 93/ 3 (influences of by-catches on Scotian Shelf S hake 1977-90)  
 99 (size comp. of haddock & whiting in Scottish North Sea)  
 117 (comparative fishing for cod & haddock with trawl & LL)  
 120 (mesh size/type on dist. & catch of groundfish on S. Shelf)

Hake, silver (*Merluccius bilinearis*)

- SCR 93/ 2 (abundance of S hake & others on Scotian Shelf)  
 3 (influences of by-catches on Scotian Shelf S hake 1977-90)  
 4 (reliability of S hake abundance indices on Scotian Shelf)  
 6 (status of S hake in Div 4VWX in 1992 & TAC 1994)  
 40 (food & feeding of silver hake on Scotian Shelf)  
 102 (status of Scotian Shelf S hake population, 1992)  
 108 (analysis of advice & TAC for Div 4VWX silver hake)

Halibut, Greenland (*Reinhardtius hippoglossoides*)

- SCR 93/ 15 (assessment of G halibut in Div 0B & 2GH, 1992)  
 17 (feeding cycles of G halibut re catch rates, 1991-92)  
 18 (G. halibut feeding in Div 3LM)  
 52 (biomass & abundance of G halibut & redfish, 1992)  
 53 (trial deepwater longline fishery in Davis St., 1992)  
 58 (results of bottom trawl surveys off W Greenland, 1992)  
 61 (abundance of G halibut in deepwater, Div 3LMN)  
 62 (distribution of G halibut, Labrador-E. Nfld)  
 75 (status of G halibut in SA 2 & Div 3KLM)  
 80 (assessment of G halibut in SA 0+1, Davis St.)  
 118 (experiments in a multi-gear fishery for G. halibut)

Herring, Atlantic (*Clupea harengus*)

- SCR 93/ 93 (impact of mesh size on herring in Baltic Sea)  
 119 (increasing size selectivity of herring trawl by using grid)

Hydroacoustics (see Acoustics)

Hydrography (see also specific subjects)

- SCR 93/ 1 (oceanographic conditions in NW Atlantic, 1992)  
 39 (physical & biol. cycles of cod spawning in N Atl.)  
 41 (interannual variab. in the timing of spawning cod)  
 46 (MEDS report for 1992)  
 48 (hydrographic data sampled during surveys, 1990+92)  
 50 (overview of environmental conditions, 1992)  
 87 (state of Grand Bank, 1993, compared to mean)  
 106 (environmental conditions in Atl. Canada, 1993)  
 107 (oceanographic conditions on Flemish Cap, 1993)

[I]

ICES (International Council for the Exploration of the Sea)

- SCS 93/ 8 (report of ICES/NAFO Group on seals, Oct 1992)

Ice; Icebergs

- SCR 93/ 8 (climatic conditions around Greenland, 1992)  
 46 (MEDS report for 1992)  
 50 (overview of environmental conditions, 1992)  
 106 (environmental conditions in Atl. Canada, 1993)

Iceland area (see also Greenland, East)

- SCR 93/ 65 (sexual mat. of female Denmark St. shrimp vs Iceland)  
 66 (trawl survey for shrimp in Denmark Strait, 1992)  
 113 (optimal management of Iceland-Greenland cod stock)  
 135 (Iceland shrimp fishery in Denmark St., 1992-93)

Inshore (see also respective areas)

- SCR 93/ 35 (dist. & abund. of juvenile cod on Nfld Shelf, 1992)  
 42 (spawning locations of cod off Nfld-Labrador)  
 52 (biomass & abundance of G halibut & redfish, 1992)  
 68 (distribution of juvenile cod, Div 2J3KL, 1981-92)  
 72 (trawl survey for shrimp SA 1, 1992)  
 129 (trawl survey for shrimp in Disko Bay, W Greenl., 1993)

## [J]

Japan

- SCR 93/ 58 (results of bottom trawl surveys off W Greenland, 1992)  
 SCS 93/ 13 (Japanese research report for 1992)

Juveniles

- SCR 93/ 10 (distribution of yellowtail on Grand Bank, 1971-91)  
 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)  
 31 (stock structure of juvenile cod on Nfld Shelf)  
 32 (dist. & abund. of 0-group cod, Div 3KL, 1991+92)  
 35 (dist. & abund. of juvenile cod on Nfld Shelf, 1992)  
 68 (distribution of juvenile cod, Div 2J3KL, 1981-92)  
 71 (juvenile American plaice on the Grand Bank, Div 3LNO)  
 76 (assessment of yellowtail flounder in Div 3LNO)  
 89 (abundance & length comp. of redfish, SA 1)

## [L]

Labrador area (Subarea 2)

- SCR 93/ 1 (oceanographic conditions in NW Atlantic, 1992)  
 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)  
 34 (status of pinnipeds in Newfoundland region)  
 62 (distribution of G halibut, Labrador-E. Nfld)

Length; Length composition

- SCR 93/ 11 (assessment of redfishes by acoustics, Div 3M, 1992)  
 12 (roundnose gr. investigations SA 0,2 & Div 3K, 1971-92)  
 14 (spatial & functional structure of cod, spring-summer)  
 22 (northern shrimp stock on Flemish Cap, 1992)  
 26 (abundance & length of demersal fish off W. Greenl.)  
 35 (dist. & abund. of juvenile cod on Nfld Shelf, 1992)  
 51 (Icelandic shrimp fishery in Denmark Strait, 1992-93)  
 52 (biomass & abundance of G halibut & redfish, 1992)

- SCR 93/ 56 (variability of annual condition factors in cod, Div 2J3KL)  
 57 (variation in age & length at maturity in Div 2J3KL cod)  
 60 (commercial shrimp fishery in Denmark Strait, 1992-93)  
 78 (Cdn fishery for shrimp in Davis St., 1979-92)  
 79 (estimate of shrimp discard from trawls in Davis St., 1992)  
 89 (abundance & length comp. of redfish, SA 1)  
 97 (gillnet selectivity of bass & white croaker)  
 101 (Iceland shrimp fishery & age struc. on Flemish Cap, 1993)  
 105 (dist. & abund. shrimp from cod stomachs, Div 3M, 1978-84)  
 112 (age & growth of shrimp on Flemish Cap)  
 117 (comparative fishing for cod & haddock with trawl & LL)  
 118 (experiments in a multi-gear fishery for G. halibut)

*Limanda ferruginea* (see Flounder, yellowtail)Logbooks

- SCR 93/ 60 (commercial shrimp fishery in Denmark Strait, 1992-93)  
 63 (catch stats of shrimp in Denmark St., 1980-92)  
 78 (Cdn fishery for shrimp in Davis St., 1979-92)  
 103 (assessment of shrimp, Div 3M, 1993)  
 130 (shrimp fishery in SA 1, Jan-Oct 1993)  
 131 (shrimp fishery in Denmark Strait, Jan-Oct 1993)

Longline

- SCR 93/117 (comparative fishing for cod & haddock with trawl & LL)  
 118 (experiments in a multi-gear fishery for G. halibut)

## [M]

MEDS (Marine Environmental Data Service)

- SCR 93/ 46 (MEDS report for 1992)

*Mallotus villosus* (see Capelin)Management

- SCR 93/ 6 (status of S hake in Div 4VWX in 1992 & TAC 1994)  
 47 (biomass & age comp. for cod in Div 2J3KL)  
 59 (investigations of capelin from Barents Sea)  
 67 (effect of mesh size changes on Flemish Cap cod)  
 81 (assessment of shrimp in SA 0+1, Davis Strait)  
 93 (impact of mesh size on herring in Baltic Sea)  
 97 (gillnet selectivity of bass & white croaker)  
 98 (criteria for dividing up the sea)  
 100 (selectivity of trawls for redfish on Flemish Cap)  
 108 (analysis of advice & TAC for Div 4VWX silver hake)  
 113 (optimal management of Iceland-Greenland cod stock)  
 116 (management of a shrimp stock in Davis Strait)  
 123 (models of codend selection)  
 125 (estimating fleet specific fishing mortality)  
 127 (Canadian shrimp selectivity program, 1993)

- SCS 93/ 3 (Canadian request for scientific advice for 1994)  
 4 (Denmark-Greenland request for sci. advice for 1994)  
 17 (report of Scientific Council, Jun 1993)  
 20 (report of Scientific Council, Sep 1993)  
 21 (report of scientific Council, Nov 1993)

Maturation; Maturity

- SCR 93/ 16 (results of European cod tagging, Div 3M)  
 25 (identification of female cod on Flemish Cap)

- SCR 93/ 43 (influence of age on maturation & spawning of cod)  
 57 (variation in age & length at maturity in Div 2J3KL cod)  
 65 (sexual mat. of female Denmark St. shrimp vs Iceland)  
 75 (status of G halibut in SA 2 & Div 3KLM)  
 91 (assessment of American plaice in Div 3LNO)

Marine Environmental Data Service (see MEDS)

Merluccius bilinearis (see Hake, silver)

Mesh size

- SCR 93/ 67 (effect of mesh size changes on Flemish Cap cod)  
 93 (impact of mesh size on herring in Baltic Sea)  
 97 (gillnet selectivity of bass & white croaker)  
 100 (selectivity of trawls for redfish on Flemish Cap)  
 109 (estimating discards using selectivity data)  
 115 (factors influencing by-catch & discard rates)  
 120 (mesh size/type on dist. & catch of groundfish on S. Shelf)  
 123 (models of codend selection)

Meteorology

- SCR 93/ 50 (overview of environmental conditions, 1992)  
 106 (environmental conditions in Atl. Canada, 1993)

Mid-Atlantic Bight

- SCR 93/122 (technological interactions in Mid-Atlantic Bight)

Migration (see also Tagging)

- SCR 93/ 7 (analysis of hake feeding on Scotian Shelf 1988 & 1990)  
 87 (state of Grand Bank, 1993, compared to mean)  
 106 (environmental conditions in Atl. Canada, 1993)  
 121 (technological interactions in Gulf of St. Lawrence)

- SCS 93/ 8 (report of ICES/NAFO Group on seals, Oct 1992)

Mortality

- SCR 93/124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)  
 125 (estimating fleet specific fishing mortality)

Multiplicative model (see under assessments)

- SCR 93/ 60 (commercial shrimp fishery in Denmark Strait, 1992-93)  
 61 (abundance of G halibut in deepwater, Div 3LMN)  
 75 (status of G halibut in SA 2 & Div 3KLM)  
 76 (assessment of yellowtail flounder in Div 3LNO)  
 77 (assessment of Div 3M redfish)  
 90 (assessment of cod in Div 3NO)  
 131 (shrimp fishery in Denmark Strait, Jan-Oct 1993)

Multispecies fishery

- SCR 93/121 (technological interactions in Gulf of St. Lawrence)  
 122 (technological interactions in Mid-Atlantic Bight)  
 126 (dynamic models of technological interaction)

[N]

New England area (Subareas 5 and 6) (pertains generally to southern New England, see Georges Bank and Gulf of Maine for other parts of the area)

- SCR 93/ 27 (water temperature & salinity, G. of Maine, 1992)

Newfoundland area (Subarea 3, see also inshore)

- SCR 93/ 14 (spatial & functional structure of cod, spring-summer)  
 34 (status of pinnipeds in Newfoundland region)  
 42 (spawning locations of cod off Nfld-Labrador)  
 43 (influence of age on maturation & spawning of cod)  
 62 (distribution of G halibut, Labrador-E. Nfld)

Newfoundland Shelf

- SCR 93/ 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)  
 31 (stock structure of juvenile cod on Nfld Shelf)  
 32 (dist. & abund. of 0-group cod, Div 3KL, 1991+92)  
 36 (diet of harp seals, Div 2J3KL, 1991-93)  
 45 (distribution of seals offshore of Newfoundland)  
 54 (changes in autumn dist. of capelin, Div 2J3KL)  
 56 (variability of annual condition factors in cod, Div 2J3KL)  
 68 (distribution of juvenile cod, Div 2J3KL, 1981-92)  
 75 (status of G halibut in SA 2 & Div 3KLM)  
 86 (assessment of cod in Div 2J3KL)  
 88 (oceanographic conditions in Div 2J3KL, autumn)

Northeast Atlantic (see Atlantic Ocean, Northeast)

Northwest Atlantic (see Atlantic Ocean, Northwest)

[O]

Observer

- SCR 93/ 74 (roundnose grenadier fisheries in SA 2+3)

Oceanography (see also specific subjects)

- SCR 93/ 1 (oceanographic conditions in NW Atlantic, 1992)  
 2 (abundance of S hake & others on Scotian Shelf)  
 9 (oceanographic conditions at W. Greenland, 1992)  
 38 (cod recruitment & salinity in Newfoundland region)  
 46 (MEDS report for 1992)  
 49 (mean, seasonal & interannual variability, Gulf Stream)  
 50 (overview of environmental conditions, 1992)  
 87 (state of Grand Bank, 1993, compared to mean)  
 88 (oceanographic conditions in Div 2J3KL, autumn)  
 106 (environmental conditions in Atl. Canada, 1993)  
 107 (oceanographic conditions on Flemish Cap, 1993)

Otoliths

- SCR 93/ 20 (otolith growth vs cohort growth of Flemish Cap cod)  
 57 (variation in age & length at maturity in Div 2J3KL cod)

Otter trawls (see Trawls)

## [P]

Pandalus sp. (see Shrimp)Pandalus borealis (see Shrimp)Plaice, American (*Hippoglossoides platessoides*)

- SCR 93/ 16 (results of European cod tagging, Div 3M)  
 71 (juvenile American plaice on the Grand Bank, Div 3LNO)  
 82 (assessment of American plaice in Div 3M)  
 91 (assessment of American plaice in Div 3LNO)  
 124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)

Pollachius virens (see Pollock)Pollock (saithe, *Pollachius virens*)

- SCR 94/ 2 (abundance of S hake & others on Scotian Shelf)  
 3 (influences of by-catches on Scotian Shelf S hake 1977-90)  
 120 (mesh size/type on dist. & catch of groundfish on S. Shelf)  
 124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)

Portugal

- SCS 93/ 15 (Portuguese research report for 1992)

Publications

- SCS 93/ 1 (provisional index for 1992 SCR & SCS documents)  
 2 (provisional index of Journal & Studies papers, 1987-93)  
 11 (statistical activities & publications note)

## [Q]

Quotas

- SCR 93/125 (estimating fleet specific fishing mortality)

## [R]

Recruitment

- SCR 93/ 37 (cod spawner biomass & recruitment, Div 2J3KL)  
 38 (cod recruitment & salinity in Newfoundland region)  
 39 (physical & biol. cycles of cod spawning in N Atl.)  
 42 (spawning locations of cod off Nfld-Labrador)  
 69 (depensatory recruitment & collapse of fisheries)

Redfishes, Atlantic (*Sebastes sp.*)

- SCR 93/ 13 (by-catches of cod in Div 3LNO, 1988-91)  
 23 (osteological differences in redfish on Flemish Cap)  
 24 (dist., abund., & biomass of redfish on Flemish Cap)  
 52 (biomass & abundance of G halibut & redfish, 1992)  
 73 (assessment of Div 3LN redfish)  
 77 (assessment of Div 3M redfish)  
 89 (abundance & length comp. of redfish, SA 1)  
 100 (selectivity of trawls for redfish on Flemish Cap)

Redfish, beaked (*Sebastes fasciatus*, *S. mentella*)

- SCR 93/ 58 (results of bottom trawl surveys off W Greenland, 1992)  
 89 (abundance & length comp. of redfish, SA 1)

Redfish, golden (*Sebastes marinus*)

- SCR 93/ 89 (abundance & length comp. of redfish, SA 1)

Reinhardtius hippoglossoides (see Halibut, Greenland)Regulatory Area

- SCR 93/ 47 (biomass & age comp. for cod in Div 2J3KL)

Research reports (national)

- SCS 93/ 6 (Canadian research report for 1992)  
 10 (Russian research report for 1992)  
 12 (German research report for 1992)  
 13 (Japanese research report for 1992)  
 14 (Spanish research report for 1992)  
 15 (Portuguese research report for 1992)  
 16 (Denmark/Greenland research report for 1992)  
 19 (United States research report for 1992)

Roughhead grenadier (see Grenadier, roughhead)Roundnose grenadier (see Grenadier, roundnose)Russia (see Russian Federation)Russian Federation

- SCS 93/ 10 (Russian research report for 1992)

## [S]

STACFIS (Standing Committee on Fishery Science)

- SCS 93/ 17 (report of Scientific Council, Jun 1993)  
 20 (report of Scientific Council, Sep 1993)  
 21 (report of scientific Council, Nov 1993)

STACPUB (Standing Committee on Publications)

- SCS 93/ 17 (report of Scientific Council, Jun 1993)  
 20 (report of Scientific Council, Sep 1993)

STACREC (Standing Committee on Research Coordination)

- SCS 93/ 17 (report of Scientific Council, Jun 1993)  
 18 (research vessels by stock)  
 20 (report of Scientific Council, Sep 1993)

Saint Pierre Bank

- SCR 93/ 38 (cod recruitment & salinity in Newfoundland region)  
 41 (interannual variab. in the timing of spawning cod)  
 42 (spawning locations of cod off Nfld-Labrador)

Saithe (see Pollock)Salinity

- SCR 93/ 27 (water temperature & salinity, G. of Maine, 1992)  
 38 (cod recruitment & salinity in Newfoundland region)

- SCR 93/ 44 (influence of Labrador Current on ocean climate)  
 50 (overview of environmental conditions, 1992)  
 87 (state of Grand Bank, 1993, compared to mean)

Sampling, biological

- SCR 93/ 16 (results of European cod tagging, Div 3M)  
 99 (size comp. of haddock & whiting in Scottish North Sea)  
 101 (Iceland shrimp fishery & age struc. on Flemish Cap, 1993)  
 104 (northern shrimp stock on Flemish Cap, Jun-Jul, 1993)  
 115 (factors influencing by-catch & discard rates)

- SCS 93/ 9 (list of biological sampling data for 1991)

Scientific Council

- SCS 93/ 17 (report of Scientific Council, Jun 1993)  
 20 (report of Scientific Council, Sep 1993)  
 21 (report of scientific Council, Nov 1993)

Scotian Shelf (Div. 4VWX)

- SCR 93/ 2 (abundance of S hake & others on Scotian Shelf)  
 3 (influences of by-catches on Scotian Shelf S hake 1977-90)  
 4 (reliability of S hake abundance indices on Scotian Shelf)  
 6 (status of S hake in Div 4VWX in 1992 & TAC 1994)  
 7 (analysis of hake feeding on Scotian Shelf 1988 & 1990)  
 40 (food & feeding of silver hake on Scotian Shelf)  
 44 (influence of Labrador Current on ocean climate)  
 102 (status of Scotian Shelf S hake population, 1992)  
 108 (analysis of advice & TAC for Div 4VWX silver hake)  
 120 (mesh size/type on dist. & catch of groundfish on S. Shelf)

Seals

- SCR 93/ 34 (status of pinnipeds in Newfoundland region)  
 36 (diet of harp seals, Div 2J3KL, 1991-93)  
 45 (distribution of seals offshore of Newfoundland)

- SCS 93/ 8 (report of ICES/NAFO Group on seals, Oct 1992)

Sebastes sp. (see Redfishes, Atlantic)

Sequential population analysis (SPA) (see under assessments)

Shrimp (*Pandalus* sp.)

- SCR 93/ 22 (northern shrimp stock on Flemish Cap, 1992)  
 51 (Icelandic shrimp fishery in Denmark Strait, 1992-93)  
 63 (catch stats of shrimp in Denmark St., 1980-92)  
 64 (shrimp fishery in SA 1, 1992-93)  
 65 (sexual mat. of female Denmark St. shrimp vs Iceland)  
 66 (trawl survey for shrimp in Denmark Strait, 1992)  
 70 (trawl surveys for shrimp in SA 0+1, 1992)  
 72 (trawl survey for shrimp SA 1, 1992)  
 78 (Cdn fishery for shrimp in Davis St., 1979-92)  
 79 (estimate of shrimp discard from trawls in Davis St., 1992)  
 81 (assessment of shrimp in SA 0+1, Davis Strait)  
 84 (assessment of shrimp in Denmark Strait)  
 101 (Iceland shrimp fishery & age struc. on Flemish Cap, 1993)  
 103 (assessment of shrimp, Div 3M, 1993)  
 104 (northern shrimp stock on Flemish Cap, Jun-Jul, 1993)  
 105 (dist. & abund. shrimp from cod stomachs, Div 3M, 1978-84)  
 110 (Greenland shrimp fishery on Flemish Cap, 1993)  
 111 (Canadian shrimp fishery on Flemish Cap, 1993)  
 112 (age & growth of shrimp on Flemish Cap)

- SCR 93/114 (model to fish on same grounds or switch, based on shrimp)  
 121 (technological interactions in Gulf of St. Lawrence)  
 127 (Canadian shrimp selectivity program, 1993)  
 128 (Canadian shrimp fishery in Davis St., 1979-93)  
 129 (trawl survey for shrimp in Disko Bay, W Greenl., 1993)  
 130 (shrimp fishery in SA 1, Jan-Oct 1993)  
 131 (shrimp fishery in Denmark Strait, Jan-Oct 1993)  
 132 (trawl survey for shrimp, SA 0+1 offshore, 1993)  
 133 (catch stats of shrimp in Denmark St., 1980-93)  
 134 (assessment of shrimp in Denmark Strait)  
 135 (Iceland shrimp fishery in Denmark St., 1992-93)  
 136 (assessment of shrimp in SA 0+1, Davis St.)

- SCS 93/ 21 (report of scientific Council, Nov 1993)

Silver hake (see Hake, silver)

Size composition

- SCR 93/ 58 (results of bottom trawl surveys off W Greenland, 1992)  
 72 (trawl survey for shrimp SA 1, 1992)  
 128 (Canadian shrimp fishery in Davis St., 1979-93)

Spain

- SCS 93/ 14 (Spanish research report for 1992)

Spawning (see also Eggs, Maturation, Reproduction)

- SCR 93/ 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)  
 39 (physical & biol. cycles of cod spawning in N Atl.)  
 41 (interannual variab. in the timing of spawning cod)  
 42 (spawning locations of cod off Nfld-Labrador)  
 43 (influence of age on maturation & spawning of cod)

Statistical Areas

- SCR 93/ 98 (criteria for dividing up the sea)

Statistics

- SCS 93/ 5 (historical catches for some stocks, 1981-91)  
 11 (statistical activities and publications note)  
 22 (provisional nominal catches, 1992)

Stock, stock size (see also Abundance; Assessment)

- SCR 93/ 5 (stabilization of stock estimates by ADAPT)  
 6 (status of S hake in Div 4VWX in 1992 & TAC 1994)  
 58 (results of bottom trawl surveys off W Greenland, 1992)  
 63 (catch stats of shrimp in Denmark St., 1980-92)  
 69 (depensatory recruitment & collapse of fisheries)  
 117 (comparative fishing for cod & haddock with trawl & LL)  
 132 (trawl survey for shrimp, SA 0+1 offshore, 1993)

- SCS 93/ 8 (report of ICES/NAFO Group on seals, Oct 1992)

Subcommittee, reports

- SCS 93/ 17 (report of Scientific Council, 2-16 Jun 1993)

Surveys, biological

- SCR 93/ 19 (bottom trawl survey, Flemish Cap, 1992)  
 28 (capelin acoustic surveys, Div 2J3K, 1992)  
 29 (biomass & abund. of fish, Div 2J3KL, 1981-91)  
 33 (effect of climate on dist. of cod by trawl surveys)

- SCR 93/ 58 (results of bottom trawl surveys off W Greenland, 1992) [U]  
 66 (trawl survey for shrimp in Denmark Strait, 1992)  
 70 (trawl surveys for shrimp in SA 0+1, 1992)  
 73 (assessment of Div 3LN redfish)  
 75 (status of G halibut in SA 2 & Div 3KLM)  
 76 (assessment of yellowtail flounder in Div 3LNO)  
 80 (assessment of G halibut in SA 0+1, Davis St.)  
 83 (stock status of witch flounder in Div 3NO)  
 86 (assessment of cod in Div 2J3KL)  
 87 (state of Grand Bank, 1993, compared to mean)  
 92 (analysis of catches from trouser trawl experiment)  
 94 (analysis of multiple tow trouser trawl experiment)  
 104 (northern shrimp stock on Flemish Cap, Jun-Jul, 1993)  
 117 (comparative fishing for cod & haddock with trawl & LL)  
 129 (trawl survey for shrimp in Disko Bay, W Greenl., 1993)  
 132 (trawl survey for shrimp, SA 0+1 offshore, 1993)

SCS 93/ 18 (research vessels by stock)

Symposia

SCS 93/ 20 (report of Scientific Council, 7-10 Sep 1993)

[T]

TAC (Total allowable catch)

SCR 93/ 6 (status of S hake in Div 4VWX in 1992 & TAC 1994)  
 108 (analysis of advice & TAC for Div 4VWX silver hake)

Tagging (methods, recaptures, returns, etc.)

SCR 93/ 16 (results of European cod tagging, Div 3M)

SCS 93/ 7 (tagging activities reported in 1992)

Temperature

SCR 93/ 1 (oceanographic conditions in NW Atlantic, 1992)  
 8 (climatic conditions around Greenland, 1992)  
 9 (oceanographic conditions at W. Greenland, 1992)  
 26 (abundance & length of demersal fish off W. Greenl.)  
 27 (water temperature & salinity, G. of Maine, 1992)  
 41 (interannual variab. in the timing of spawning cod)  
 44 (influence of Labrador Current on ocean climate)  
 46 (MEDS report for 1992)  
 50 (overview of environmental conditions, 1992)  
 56 (variability of annual condition factors in cod, Div 2J3KL)  
 68 (distribution of juvenile cod, Div 2J3KL, 1981-92)  
 87 (state of Grand Bank, 1993, compared to mean)  
 88 (oceanographic conditions in Div 2J3KL, autumn)  
 107 (oceanographic conditions on Flemish Cap, 1993)

Trawls (see also fishing gear)

SCR 93/117 (comparative fishing for cod & haddock with trawl & LL)  
 118 (experiments in a multi-gear fishery for G. halibut)

USA (see United States of America)

United States of America (USA)

SCR 93/ 27 (water temperature & salinity, G. of Maine, 1992)  
 124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)

SCS 93/ 19 (United States research report for 1992)

[V]

VPA (see under assessments)

[W]

Water circulation (see Currents)

Waves

SCR 93/ 46 (MEDS report for 1992)

Weight (see also Catch)

SCR 93/ 6 (status of S hake in Div 4VWX in 1992 & TAC 1994)  
 56 (variability of annual condition factors in cod, Div 2J3KL)  
 75 (status of G halibut in SA 2 & Div 3KLM)  
 76 (assessment of yellowtail flounder in Div 3LNO)  
 91 (assessment of American plaice in Div 3LNO)  
 102 (status of Scotian Shelf S hake population, 1992)

West Greenland (see Greenland, West)

Winter flounder (see Flounder, winter)

Witch flounder (see Flounder, witch)

[Y]

Yellowtail flounder (see Flounder, yellowtail)

Yield; Yield-per-recruit

SCR 93/ 95 (effect of size selection within & between gears)



## [A]

ALPOIM, R. R. (Portugal)

SCS 93/ 15 (Portuguese research report for 1992)

ANDERSEN, M. (Greenland)

SCR 93/ 81 (assessment of shrimp in SA 0+1, Davis Strait)  
84 (assessment of shrimp in Denmark Strait)  
129 (trawl survey for shrimp in Disko Bay, W Greenl., 1993)  
132 (trawl survey for shrimp, SA 0+1 offshore, 1993)  
134 (assessment of shrimp in Denmark Strait)  
136 (assessment of shrimp in SA 0+1, Davis St.)

SCS 93/ 16 (Denmark/Greenland research report for 1992)

ANDERSON, J. T. (Canada)

SCR 93/ 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)  
32 (dist. & abund. of 0-group cod, Div 3KL, 1991+92)  
35 (dist. & abund. of juvenile cod on Nfld Shelf, 1992)  
68 (distribution of juvenile cod, Div 2J3KL, 1981-92)

ATKINSON, D. B. (Canada)

SCR 93/ 29 (biomass & abund. of fish, Div 2J3KL, 1981-91)  
74 (roundnose grenadier fisheries in SA 2+3)  
83 (stock status of witch flounder in Div 3NO)

AVILA DE MELO, A. M. (Portugal)

SCS 93/ 15 (Portuguese research report for 1992)

## [B]

BAIRD, J. W. (Canada)

SCR 93/ 33 (effect of climate on dist. of cod by trawl surveys)  
38 (cod recruitment & salinity in Newfoundland region)  
56 (variability of annual condition factors in cod, Div 2J3KL)  
57 (variation in age & length at maturity in Div 2J3KL cod)  
86 (assessment of cod in Div 2J3KL)

BAKANEV, V. S. (Russia)

SCR 93/ 28 (capelin acoustic surveys, Div 2J3K, 1992)

BARROWMAN, N. J. (Canada)

SCR 93/ 38 (cod recruitment & salinity in Newfoundland region)  
69 (depensatory recruitment & collapse of fisheries)

BALFOUR, D. (Canada)

SCR 93/27 (Canadian shrimp selectivity program, 1993)

BECH, G. (Greenland)

SCR 93/ 52 (biomass & abundance of G halibut & redfish, 1992)

BENWAY, R. L. (USA)

SCR 93/ 27 (water temperature & salinity, G. of Maine, 1992)

BISHOP, C. A. (Canada)

SCR 93/ 33 (effect of climate on dist. of cod by trawl surveys)  
39 (physical & biol. cycles of cod spawning in N Atl.)  
47 (biomass & age comp. for cod in Div 2J3KL)  
56 (variability of annual condition factors in cod, Div 2J3KL)  
57 (variation in age & length at maturity in Div 2J3KL cod)  
86 (assessment of cod in Div 2J3KL)  
90 (assessment of cod in Div 3NO)

BJORDAL, Å. (Norway)

SCR 93/18 (experiments in a multi-gear fishery for G. halibut)

BOJE, J. (Denmark)

SCR 93/ 53 (trial deepwater longline fishery in Davis St., 1992)  
80 (assessment of G halibut in SA 0+1, Davis St.)

BOROVKOV, V. (Russia)

SCS 93/ 10 (Russian research report for 1992)

BOUDREAU, P. (Canada)

SCS 93/ 6 (Canadian research report for 1992)

BOULOS, D. L. (Canada)

SCR 93/ 94 (analysis of multiple tow trouser trawl experiment)

BOURBONNAIS, M. C. (Canada)

SCR 93/102 (status of Scotian Shelf S hake population, 1992)

BOWERING, W. R. (Canada)

SCR 93/ 62 (distribution of G halibut, Labrador-E. Nfld)  
75 (status of G halibut in SA 2 & Div 3KLM)  
76 (assessment of yellowtail flounder in Div 3LNO)  
83 (stock status of witch flounder in Div 3NO)

BRANTON, R. (Canada)

SCR 93/102 (status of Scotian Shelf S hake population, 1992)

BRODIE, W. B. (Canada)

SCR 93/ 75 (status of G halibut in SA 2 & Div 3KLM)  
76 (assessment of yellowtail flounder in Div 3LNO)  
83 (stock status of witch flounder in Div 3NO)  
91 (assessment of American plaice in Div 3LNO)

BUCH, E. (Denmark)

SCR 93/ 9 (oceanographic conditions at W. Greenland, 1992)

## [C]

CADIGAN, N. G. (Canada)

SCR 93/ 92 (analysis of catches from trouser trawl experiment)  
94 (analysis of multiple tow trouser trawl experiment)

CARLSSON, D. M. (Denmark)

- SCR 93/ 60 (commercial shrimp fishery in Denmark Strait, 1992-93)  
 64 (shrimp fishery in SA 1, 1992-93)  
 66 (trawl survey for shrimp in Denmark Strait, 1992)  
 70 (trawl surveys for shrimp in SA 0+1, 1992)  
 72 (trawl survey for shrimp SA 1, 1992)  
 81 (assessment of shrimp in SA 0+1, Davis Strait)  
 84 (assessment of shrimp in Denmark Strait)  
 129 (trawl survey for shrimp in Disko Bay, W Greenl., 1993)  
 130 (shrimp fishery in SA 1, Jan-Oct 1993)  
 131 (shrimp fishery in Denmark Strait, Jan-Oct 1993)  
 132 (trawl survey for shrimp, SA 0+1 offshore, 1993)  
 134 (assessment of shrimp in Denmark Strait)  
 136 (assessment of shrimp in SA 0+1, Davis St.)

CARNEIRO, M. (Portugal)

- SCR 93/ 16 (results of European cod tagging, Div 3M)

CARR, S. M. (Canada)

- SCR 93/ 31 (stock structure of juvenile cod on Nfld Shelf)

CARSCADDEN, J. E. (Canada)

- SCR 93/ 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)

CASAS, J. M. (Spain)

- SCR 93/ 20 (otolith growth vs cohort growth of Flemish Cap cod)

CASEY, J. (United Kingdom)

- SCR 93/109 (estimating discards using selectivity data)

CERVIÑO, S. (Spain)

- SCR 93/ 25 (identification of female cod on Flemish Cap)

CHRISTENSEN, S. (Denmark)

- SCR 93/113 (optimal management of Iceland-Greenland cod stock)  
 116 (management of a shrimp stock in Davis Strait)

CLAY, P. M. (USA)

- SCR 93/ 98 (criteria for dividing up the sea)

COLBOURNE, E. (Canada)

- SCR 93/ 87 (state of Grand Bank, 1993, compared to mean)  
 88 (oceanographic conditions in Div 2J3KL, autumn)  
 106 (environmental conditions in Atl. Canada, 1993)  
 107 (oceanographic conditions on Flemish Cap, 1993)

CORNUS, P. (Republic of Germany)

- SCR 93/ 12 (German research report for 1992)

## [D]

DALLEY, E. L. (Canada)

- SCR 93/ 30 (dist. & abund. of 0-group northern cod, Div 2J3KL)

- SCR 93/ 32 (dist. & abund. of 0-group cod, Div 3KL, 1991+92)  
 35 (dist. & abund. of juvenile cod on Nfld Shelf, 1992)

DAVIS, D. J. (Canada)

- SCR 93/ 54 (changes in autumn dist. of capelin, Div 2J3KL)

DAVIS, M. B. (Canada)

- SCR 93/ 86 (assessment of cod in Div 2J3KL)  
 90 (assessment of cod in Div 3NO)

DEALTERIS, J. (USA)

- SCR 93/ 95 (effect of size selection within & between gears)

DE CÁRDEÑAS, E. (Spain)

- SCR 93/ 16 (results of European cod tagging, Div 3M)  
 61 (abundance of G halibut in deepwater, Div 3LMN)  
 67 (effect of mesh size changes on Flemish Cap cod)  
 82 (assessment of American plaice in Div 3M)

DRINKWATER, K. F. (Canada)

- SCR 93/ 38 (cod recruitment & salinity in Newfoundland region)  
 44 (influence of Labrador Current on ocean climate)  
 49 (mean, seasonal & interannual variability, Gulf Stream)  
 50 (overview of environmental conditions, 1992)

## [E]

EINARSSON, S. (Iceland)

- SCR 93/101 (Iceland shrimp fishery & age struc. on Flemish Cap, 1993)

ENGÅS, A. (Norway)

- SCR 93/117 (comparative fishing for cod & haddock with trawl & LL)

## [F]

FRYER, R. J. (United Kingdom)

- SCR 93/123 (models of codend selection)

## [G]

GABRIEL, W. L. (USA)

- SCR 93/122 (technological interactions in Mid-Atlantic Bight)

GASIUKOV, P. S. (Russia)

- SCR 93/ 5 (stabilization of stock estimates by ADAPT)  
 6 (status of S hake in Div 4VWX in 1992 & TAC 1994)

GERASIMOVA, O. V. (Russia)

- SCR 93/ 14 (spatial & functional structure of cod, spring-summer)

GIL, J. (Spain)

SCR 93/ 16 (results of European cod tagging, Div 3M)

GLENN, G. F. (Canada)

SCR 93/ 46 (MEDS report for 1992)

GODINHO, M. L. (Portugal)

SCR 93/ 82 (assessment of American plaice in Div 3M)

SCS 93/ 15 (Portuguese research report for 1992)

GONZALEZ, M. (Spain)

SCR 93/ 25 (identification of female cod on Flemish Cap)

GORCHINSKY, K. V. (Russia)SCR 93/ 15 (assessment of G halibut in Div 0B & 2GH, 1992)  
77 (assessment of Div 3M redfish)  
100 (selectivity of trawls for redfish on Flemish Cap)

SCS 93/ 10 (Russian research report for 1992)

GRISWOLD, C. A. (USA)

SCR 93/ 27 (water temperature &amp; salinity, G. of Maine, 1992)

## [H]

HALLIDAY, R. G. (Canada)SCR 93/102 (status of Scotian Shelf S hake population, 1992)  
108 (analysis of advice & TAC for Div 4VWX silver hake)HAREIDE, N.-R. (Norway)

SCR 93/ 53 (trial deepwater longline fishery in Davis St., 1992)

HASSAGER, T. K. (Denmark)

SCR 93/114 (model to fish on same grounds or switch, based on shrimp)

HICKEY, W. M. (Canada)SCR 93/ 92 (analysis of catches from trouser trawl experiment)  
94 (analysis of multiple tow trouser trawl experiment)HOKENSON, S. R. (USA)

SCR 93/124 (finfish by-catch mortality in Gulf of Maine shrimp fishery)

HUTCHINGS, J. A. (Canada)SCR 93/ 41 (interannual variab. in the timing of spawning cod)  
42 (spawning locations of cod off Nfld-Labrador)  
43 (influence of age on maturation & spawning of cod)  
69 (depensatory recruitment & collapse of fisheries)

## [I]

IGLESIAS, S. (Spain)

SCS 93/ 14 (Spanish research report for 1992)

IVANOVA, T. O. (Russia)

SCR 93/ 11 (assessment of redfishes by acoustics, Div 3M, 1992)

## [J]

JØRGENSEN, O. (Denmark)SCR 93/ 58 (results of bottom trawl surveys off W Greenland, 1992)  
80 (assessment of G halibut in SA 0+1, Davis St.)JOSSI, J. W. (USA)

SCR 93/ 27 (water temperature &amp; salinity, G. of Maine, 1992)

JUNQUERA, S. (Spain)SCR 93/ 17 (feeding cycles of G halibut re catch rates, 1991-92)  
61 (abundance of G halibut in deepwater, Div 3LMN)

## [K]

KANNEWORFF, P. (Denmark)SCR 93/ 60 (commercial shrimp fishery in Denmark Strait, 1992-93)  
64 (shrimp fishery in SA 1, 1992-93)  
66 (trawl survey for shrimp in Denmark Strait, 1992)  
70 (trawl surveys for shrimp in SA 0+1, 1992)  
72 (trawl survey for shrimp SA 1, 1992)  
81 (assessment of shrimp in SA 0+1, Davis Strait)  
84 (assessment of shrimp in Denmark Strait)  
129 (trawl survey for shrimp in Disko Bay, W Greenl., 1993)  
130 (shrimp fishery in SA 1, Jan-Oct 1993)  
131 (shrimp fishery in Denmark Strait, Jan-Oct 1993)  
132 (trawl survey for shrimp, SA 0+1 offshore, 1993)  
134 (assessment of shrimp in Denmark Strait)  
136 (assessment of shrimp in SA 0+1, Davis St.)KAVANAGH, D. J. (Canada)

SCR 93/ 45 (distribution of seals offshore of Newfoundland)

KAWAHARA, S. (Japan)

SCR 93/ 58 (results of bottom trawl surveys off W Greenland, 1992)

KOVALEV, S. (Russia)

SCS 93/ 10 (Russian research report for 1992)

KUIKKA, S. (Finland)

SCR 93/ 93 (impact of mesh size on herring in Baltic Sea)

KULKA, D. W. (Canada)

SCR 93/ 74 (roundnose grenadier fisheries in SA 2+3)

KUZMIN, S. A. (Russia)SCR 93/ 13 (by-catches of cod in Div 3LNO, 1988-91)  
14 (spatial & functional structure of cod, spring-summer)

## [L]

LAMBERT, J.-D. (Canada)

SCS 93/ 6 (Canadian research report for 1992)

LASSEN, H. (Denmark)SCR 93/ 67 (effect of mesh size changes on Flemish Cap cod)  
113 (optimal management of Iceland-Greenland cod stock)  
114 (model to fish on same grounds or switch, based on shrimp)LAWSON, J. W. (Canada)

SCR 93/ 36 (diet of harp seals, Div 2J3KL, 1991-93)

LEHTONEN, E. (Finland)

SCR 93/119 (increasing size selectivity of herring trawl by using grid)

LEMICHE, E. (Denmark)

SCS 93/ 4 (Denmark-Greenland request for sci. advice for 1994)

LILLY, G. R. (Canada)SCR 93/ 33 (effect of climate on dist. of cod by trawl surveys)  
42 (spawning locations of cod off Nfld-Labrador)  
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