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Gen:3 Election of a standing scientific Committee Chairman at the 78th Statutory Meeting (E + F)
Gen:5 Oceanographic Data Centres in the ICES Community

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Preliminary report on administration for the year 1 November 1989 to 31 October 1990

Report on activities, 1990

Estimated accounts for the financial year 1989/1990

Draft budget for the financial year 1990/1991 (E+F)

Draft forecast budget for the financial year 1991/1992 (E+F)

Elections and appointments by the Council at the 78th Statutory Meeting (E+F)

Report of the meeting of the ad hoc Planning Group for the Eighth Dialogue Meeting

Request for observer status by Greenpeace International

North Sea Task Force Progress Report

Guidelines for North Sea Task Force activities within the Secretariat and ICES

Report of ICES-HELCOM meeting, ICES Headquarters, 6 February 1990

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Guidelines and criteria governing observership of non-governmental organizations at meetings of the Helsinki Commission and the Oslo and Paris Commissions

Proposed Agreement on the Conservation of small Cetaceans

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Fi:1* Agenda for the Finance Committee

PUB - PUBLICATIONS COMMITTEE

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Del:15* North Atlantic Committee for Cooperation on Research on Marine Mammals
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*For the relevant Committee only.
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B:1 Report of Activities, 1989

B:2 R. Toresen Absorption of acoustic energy in dense herring schools studied by attenuation in the bottom echo signal

B:3 P.A. Koeller Controlling the variability of survey gear performance

B:4 Withdrawn.

B:5 B.Ja. Krayzler Hydroacoustic automated system for studying objects' behaviour

B:6 Withdrawn.

B:7 Withdrawn.

B:8 Withdrawn.

B:9 A. Lebourges Species recognition based on the spectral signature of individual targets

B:10 P. Degnbol ECHOANN - An analyzer for echosounder signals

B:11 H. Bodholt Fish density derived from echo integration and in situ target strength measurements

B:12 B.S. Nakashima and D.S. Miller The effect of trawl selectivity on estimates of acoustic biomass and year-class strength of capelin (*Mallotus villosus*)

B:13 B.S. Nakashima The application of airborne digital imagery and image analysis techniques to detect and measure capelin schools (*Mallotus villosus*)

B:14 R.B. Millar and S.J. Walsh Analysis of trawl selectivity studies with an application to trouser trawls

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B:16 K. Groeneveld and A.D. Rijnsdorp The effect of a flip-up rope on the catch efficiency of an 8-m beam trawl

B:17 F.A. Veenstra and J. Stoop Safety integrated redesign of Dutch beam trawlers

B:18 A.M. Buys Integrated wheelhouse electronics: a layout on board Dutch beam trawlers

B:19 B. van Marlen and J. Stoop Performance measurements on a single-door trawl towed at the sea surface

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Reduction of fish by-catch in shrimp trawl using a solid separator grid in the aft belly

Techno-economic analysis of fishing system developments

Influence of the light of a survey vessel on TS distribution

Evaluation of the influence of vessel noise by night on fish distribution as observed using alternate motor and sails aboard a survey vessel

A comparison of the selectivity in codends used by Soviet and Norwegian trawler fleets in the Barents Sea

REFERENCE PAPERS FOR THE FISH CAPTURE COMMITTEE

D:25, D:34, G:32, J:13
C:1  G.I. Nesvetova  Hydrochemical conditions in the Spitsbergen area according to the autumn 1972-1988 data

C:2  Withdrawn.

C:3  A.G. Kostyanoy and Yu.V. Stepanov  Mesoscale variability of hydrophysical fields generated by the Canary Current upwelling from the navigational and satellite observation data

C:4  Ju.A. Vialov and Yu.S. Altman  Variabilité de rotation terrestre et des pêches


C:7  G. Weichart  The quality of "old" oceanographic phosphate data


C:9  Report of the Working Group on Oceanic Hydrography, Copenhagen, 28-29 April 1990


C:11  Report of the Study Group for the Application of Aerospace Remote Sensing

C:12  N.K. Højerslev and I. Trabjerg  A new perspective for remote sensing measurements of plankton pigments and water quality

C:13  C. Druet  Synthesis on the results of triennial 1987-1989 S/V "Oceania" summer cruises performed in the energetically active zones of Greenland Sea

C:14  I.A. Bychkova et al.  Experimental satellite monitoring of the Baltic Sea in the 1980s

C:15  B. Håkonsson  Remotely sensed water mass distributions and large scale sea surface circulations in the Skagerrak

C:16  Withdrawn.

C:17  J. Meincke  The Greenland Sea interannual variability

C:18  B. Krutskikh and A. Makshtas  Hydrological features of East Greenland current
Experience in estimating characteristics of sea/air interaction in the Greenland and Norwegian Seas

Testing of a two-level flow model with stationary winds and simple basins

Long period salinity variations of Labrador slope water

Long-term changes in salinity distribution in the central North Sea

Interaction between the Greenland Sea gyre and the East Greenland Current at 75° N

The Greenland Sea Project in the western Iceland Sea: current measurements and water masses in the Denmark Strait

Geopotential anomaly fields and geostrophic velocity profiles in the western Iceland Sea

Circulation and hydrography in the Jan Mayen area

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A new multiple interface data acquisition system MIDAS for use in shipboard data acquisition systems

Satellite observation of polar seas

A field intercomparison between an acoustic current profiler/ADCP and two Sarvonius type current meters


Withdrawn.

Application of remote sensing in hydrography and navigation

Observation of the Azores front in July 1987 and June 1989

The Jutland Current - Nutrient and physical oceanographic conditions in late autumn 1989
C:36 S.A. Murawski and D.G. Mountain
Ref. G+H+L
Climate change and marine fish distributions: analogies from seasonal and annual variability

C:37 P. Cornillon

C:38 Withdrawn.

C:39 V.A. Makarevich
Ref. E On qualitative visualization of ocean water circulation and related matter transfer, numerical modelling results

C:40 E.Fogelqvist, B. Yhlen and B.Thorstensson
Ref. E Salinity effects in the analysis of nitrate in seawater

C:41 L. Fusco, V. Barale and P.Schlittenhardt
Sess.P The ocean colour European archive network (OCEAN) project

C:42 L. Fusco
Sess.P ESA RS data archives and user access for past, present, and future missions

C:43 L. Føyn
Ref. E Hydrographer's Report

C:44 SKAGEX 1990. Results from the nutrient intercalibration

REFERENCE PAPERS FOR THE HYDROGRAPHY COMMITTEE

**D - STATISTICS COMMITTEE**

| D:1 | Report of the Statistics Committee Liaison Working Group, Copenhagen, 21-22 November 1989 |
| D:3 | Withdrawn. |
| D:4 and D:5 | Withdrawn. |
| D:6 | V.V. Blinov, Ref.G |
| D:7 | V.V. Blinov, Ref.C+H |
| D:8 | To the methodology of modelling of the Barents Sea ichthyocenosis |
| D:9 | The possibilities for modelling of oceanographic conditions of reproduction, spawning, and feeding migration paths for the northern stock of blue whiting in the North-East Atlantic |
| D:10 and D:11 | Withdrawn. |
| D:12 | P. Petitgas |
| D:13 | J.M. Hoenig, W.G. Warren and M. Stocker |
| D:14 | Bayesian and related approaches to fitting stock production models |
| D:15 | K.H. Pollock, J.M. Hoenig and C.M. Jones |
| D:16 | Estimation of fishing and natural mortality when a tagging study is combined with port sampling |
| D:17 | J.M. Hoenig and M.H. Prager |
| D:18 | Can we determine the significance of key events on a recruitment time series? - A power study of superposed epoch analysis |
| D:19 | M. Soriano et al. |
| D:20 | New functions for the analysis of two-phase growth of juvenile and adult fishes, with application to Nile perch |
| D:21 | W.S. Warren and J.B. Dempson |
| D:22 | The precision of mark-recapture estimates under time interval stratification |
| D:23 | W.G. Warren, Ref.K |
| D:24 | Classification without prior criteria illustrated with shellfish data |
| D:25 | W.G. Warren |
| D:26 | Outliers, mixtures, and extending the Delta distribution for fisheries surveys |
| D:27 | W.G. Warren |
| D:28 | Median Polish kriging of marine populations |
| D:29 | P.A. Shelton, Ref.G+H L. Fahrig and R.B. Billar |
| D:30 | Uncertainty associated with cod-capelin interactions: how much is too much? |
Setting quotas in a stochastic fishery

The analysis of catch-at-age data in the presence of multiple stocks and seasonal migration

Definition of the problem of estimating fish abundance over an area from acoustic line-transect measurements of density

First attempt to estimate fish distribution and abundance based on geostatistical techniques applied to data collected on a Portuguese groundfish survey (ICES Division IXa)

Effort and mortality in stochastic Brownian models for fish population dynamics

Schooling-by-size in the Barents Sea capelin stock

LCA errors with recruitment fluctuations


Report of the Study Group on the Applicability of Spatial Statistical Techniques to Acoustic Survey Data, Brest, 4-6 April 1990

A few points concerning VPA estimates when using short time data series and possible non-linear or chaotic character of fishery dynamics in the case of beaked redfish stock in the Irminger Sea

Analysis of spatial variability of Georges Bank haddock (Melanogrammus aeglefinus) from trawl survey data using a linear regression model with spatial interaction

REFERENCE PAPERS FOR THE STATISTICS COMMITTEE

### E - Marine Environmental Quality Committee

| E:1 | Not available. |
| E:2 | A.Y. Cantillo and J.M. Bewers |
| E:3 | J.M. Bewers and R.J. Pentreath |
| E:4 | O. Bagge et al. |
| E:5 | Withdrawn. |
| E:6 | S. Mellergaard and E. Nielsen |
| E:7 | M.N. Moore and M.G. Simpson |
| E:8 | Ref. Pub |
| E:9 | T. Marthinsen and G. Staveland |
| E:10 | J. de Boer et al. |
| E:11 | A.D. Vethaak and T. Ap Rheinallt |
| E:12 | D. Bucke and S.W. Feist |
| E:13 | C.F. Fileman et al. |
| E:14 | R.J. Law and M.D. Nicholson |
| E:15 | R.G. Lees et al. |
| E:16 | G. Irion and G. Müller |
| E:17 | S.M. Rowlatt et al. |

**A Catalogue of Marine Standards and Reference Materials**

Comparison of risks associated with marine fish consumption

Hypoxia and the demersal fish stock in the Kattegat (IIIa) and Sub-division 22

Fish disease investigations in Danish coastal waters with special reference to the impact of oxygen deficiency

Molecular and cellular pathology in environmental impact assessment

Editor's Report on Techniques in Marine Environmental Sciences

Levels of mercury in flounder (*Platichthys flesus* L.) and cod (*Gadus morhua* L.) caught during the year 1988 in the Hvaler archipelago, southern Norway

Intercomparison exercise on the analysis of individual chlorobiphenyl congeners in marine media - first step: optimization of gas chromatographic conditions

A review and evaluation of the use of fish diseases in the monitoring of marine pollution in the North Sea

Marine fish diseases: an overview of 10 years investigations by MAFF (UK)

Dissolved and particulate trace metals in surface waters over the Dogger Bank, central North Sea

The 4th round hydrocarbon intercomparison programme: preliminary assessment of Stage 1

Benthic studies in relation to dredging activity off the Isle of Wight, southern England

Sedimentary processes in the North Sea as revealed from heavy metal distributions in sediment cores

Some effects of colliery waste disposal on sediment quality off the northeast coast of England
The toxicity of dichlorvos to some marine organisms

How to derive concentrations of chlorophyll, suspended matter, and gelbstoff from multispectral radiances of case II water?

On the frequency of left-sided individuals in European flounder (Platichthys flesus) populations in relation to pollution monitoring

Diseases of cod observed on Swedish surveys in the Baltic

Bioavailability of trace metals from marine sediments

Withdrawn.

Assessment of fish from the northern North Sea for oil taint

Environmental impact of fish farms in Scottish sea lochs

Quality assurance work in relation to the North Sea Task Force Monitoring Programme

Recovery of a sewage sludge dumping ground


Report on the interdisciplinary research project "Fish diseases in the Wadden Sea"

Cellular responses in fish liver as indicators for toxic effects of environmental pollution

Infestation of North Sea whiting (Merlangius merlangus L.) with externally visible parasites

The black spot disease in Crangon crangon L. of the German Bight

The use of mixed function oxidases (MFO) to support biological effects monitoring in the sea

A seabed source of artificial radionuclides
Draft Cooperative Research Report on the Effects of Extraction of Marine Sediments on Fisheries

Conclusions of the Critical Review of Baltic Sediments

REFERENCE PAPERS FOR THE MARINE ENVIRONMENTAL QUALITY COMMITTEE

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F - MARICULTURE COMMITTEE

F:1 Report of Activities, 1989

F:2 E. Moksness and D. Stefanussen
   Growth rates in cultured common wolffish (Anarhichas lupus) and spotted wolffish (A. minor)
   Ref.G

F:3 Report of the Editor of the Disease Sheets
   Ref.Pub

F:4 Withdrawn.

F:5 V.G. Martynov, N.K. Vorobieva and G.L. Gorshkova
   Rearing conditions for juvenile Atlantic salmon (Salmo salar) using the heating of water
   Withdrawn.

F:6 J.-E. Juell
   Hydroacoustic detection of food waste - a method to determine maximum food intake of fish populations in sea cages

F:7 W.L. Silvert Sess.O et al.
   Modelling the feeding, growth, and metabolism of cultured salmonids

F:8 J.E. Stewart et al.
   An analytical approach for evaluating opportunities in mariculture and assessing research needs: a proposal

F:9 I.E. Calcedo
   The effect of feed protein content on the intake and growth of turbot (Scophthalmus maximus L.)

F:10 Publications of interest to the Mariculture Committee, 1989-1990

F:11 Sess.T

F:12 Sess.T

F:13 Sess.T
   Report of the Working Group on Introductions and Transfers of Marine Organisms, Halifax, 6-8 June 1990

F:14 Sess.T
   Report of the Working Group on Genetics

F:15 Withdrawn.

F:16 R. Lauterbach
   Production principles for rainbow trout aquaculture in coastal brackish waters of the German Democratic Republic

F:17 O. Fukuhara, et al.
   Development and behaviour of larvae and juveniles of turbot, Scophthalmus maximus L., in hatchery tanks
| F:19 | E.A. Black, B. Redfern and H. Rosenthal | New developments in air transportation of salmon smolts |
| F:20 | H. Rosenthal, K. Lawonyawut and J. Willführ | Evaluation of shelters to reduce cannibalism in juvenile *Macrobrachium rosenbergii* under intensive culture conditions |
| F:21 | H. Rosenthal et al. | A proposed glossary on biological and technical terms relevant to aquaculture |
| F:22 | R.C. Reyes, U. Waller and H. Rosenthal | Respiration and behaviour of *Macrobrachium rosenbergii* at different levels of oxygen saturation |
| F:23 | P. Fischer, U. Kils and U. Waller | *In situ* and laboratory investigations of respiration and behaviour of *Gasterosteus aculeatus* and *Zoarces viviparus* at various oxygen concentrations |
| F:25 | C.A. Fernandez- Pato et al. | Effect of vitamin C on turbot (*Scophthalmus maximus*) using different experimental diets in feeding |
| F:26 | C. Martinez- Tapia et al. | Effect of vitamin C on hypertyrosinemic diet in turbot (*Scophthalmus maximus*) |
| F:27 | C.A. Fernandez- Pato et al. | Use of pyridoxine and ascorbic acid at different doses in turbot (*Scophthalmus maximus*) in experimental feeding |
| F:28 | Withdrawn. |
| F:29 | C.A. Fernandez- Pato et al. | Growth of turbot (*Scophthalmus maximus*) from 1 to 3,000 g in the north of Spain |
| F:30 | C.A. Fernandez- Pato et al. | Spawn, hatching, and larvae rearing of black spot sea bream (*Pagellus bogaraveo*): first experiences of its culture in the Oceanographic Center of Santander (Spain) |
| F:31 | C. Tapia- Martinez et al. | Comparative study of larval survival and growth in sea bream (*Pagellus bogaraveo*) using microencapsulated or living food |
| F:32 | O. Cherequini | Growth of wild black spot sea bream (*Pagellus bogaraveo*) under laboratory conditions. Some interesting parameters |
| F:33 | G. Andorsdóttir | Comparisons of broodfish quality and egg quality in Atlantic salmon of Norwegian farmed strain, wild Atlantic salmon and ocean ranching Atlantic salmon of Norwegian farmed strain |
| F:34 | P.K. Hansen, K. Pitman and A. Ervik | Effects of organic waste from marine fish farms on the seabottom beneath the cages |
Interactions between heritage, health, growth and environmental conditions in fish farming. Part 1: heritage, environment, and growth

Interactions between heritage, health, growth and environmental conditions in fish farming. Part 2: health

Proposed revisions to the ICES Code of Practice. A report of the ICES Working Group on Introductions and Transfers of Marine Organisms

Bacterial diseases of eggs and yolk sac larvae of halibut (Hippoglossus hippoglossus L.): characterization and experimental infection

Antibacterial treatment procedures of eggs of halibut (Hippoglossus hippoglossus L.)

Light affects hatching, development and pigmentation of halibut (Hippoglossus hippoglossus L.)

Effects of continuous flow rate on development and mortality of halibut yolk sac larvae

Effect of light on the development, activity, and mortality of halibut (Hippoglossus hippoglossus L.) yolk sac larvae

Initial feeding rates of Atlantic halibut larvae (Hippoglossus hippoglossus) at different prey densities

Induced deformities on larvae of the Atlantic halibut (Hippoglossus hippoglossus L.). A new experimental approach

Withdrawn.

Effect of light on the development, activity, and mortality of halibut (Hippoglossus hippoglossus L.) yolk sac larvae

Initial feeding rates of Atlantic halibut larvae (Hippoglossus hippoglossus) at different prey densities

Induced deformities on larvae of the Atlantic halibut (Hippoglossus hippoglossus L.). A new experimental approach

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Weaning trials with cod fry on artificial diets

Comparative growth and survival of two genetic strains of Atlantic cod (Gadus morhua L.) reared through the early life stages in a marine pond in western Norway

In vitro activities of 4-quinolone antimicrobials against Aeromonas salmonicida

Fate of four fish pathogens after exposure to an ensiling mixture containing fish farm mortalities

Further modelling studies on the fate and dispersion of Aeromonas salmonicida released during a furunculosis epidemic in sea-caged Atlantic salmon (Salmo salar L.)
K. Bozaspen, T. Harboe and L.H. Skjolddal: Calculated rate of halibut larvae (Hippoglossus hippoglossus L.) from startfeeding to metamorphosis on diet of natural zooplankton and Artemia sp.

T. Harboe et al.: Age of Atlantic halibut (Hippoglossus hippoglossus L.) larvae at first feeding

Withdrawn.

D. M. Furevik et al.: Migratory patterns of escaped farm-raised Atlantic salmon

Withdrawn.

H. Rabben et al.: Startfeeding success of halibut larvae as a function of temperature regime

Withdrawn.

L.H. Skjolddal et al.: Calculated growth rate of halibut larvae (Hippoglossus hippoglossus L.) as a function of introduction time for Artemia sp.


T. Ness et al.: Green water in larvae culture – an experiment with natural phytoplankton in tanks for first feeding of halibut larvae (Hippoglossus hippoglossus L.)

Withdrawn.

R. Nortvedt et al.: A multivariate approach to investigate growth of Atlantic salmon parrs as a function of water quality in rearing tanks

R. Nortvedt et al.: Smoltification of Atlantic salmon in different water qualities and subsequent growth in seawater, following distinct transfer strategies from freshwater

Withdrawn.

J. Munro et al.: Stress and osmotic performance of Atlantic cod (Gadus morhua) at low enrichment salinity

H.-J. Jennerich: Investigations on offshore trout production along the coast of the German Democratic Republic

G. Schneider, T. Jäger and H. Rosenthal: Growing trout in global cages in an effluent plume of a coastal power station

A. F. Anders and E. Anders: Diagnostic investigations of bacterial infections of rainbow trout in coastal waters of the German Democratic Republic

E. Anders: Experimental polyploidization in rainbow trout
Pharmaco-kinetic investigations on chloramphenicol in trout

Presentation of a database system for information on and diagnosis of fish diseases

Larval age at first feed intake in Atlantic halibut (Hippoglossus hippoglossus)

Natural spawning of Atlantic halibut (Hippoglossus hippoglossus) in captivity

Progress report of the Study Group on the Genetic Risks to Atlantic Salmon Stocks
G - DEMERSAL FISH COMMITTEE

G:1 Report of Activities, 1989

G:2 Report of the Study Group on Oceanic-Type Sebastes mentella, Reykjavik, 21-23 February 1990

G:3 Variabilities in stomach contents of cod, collected by demersal and pelagic trawl in the southern part of the Barents Sea

G:4 Trophic interrelation between length groups of Northeast Arctic cod in the southern part of the Barents Sea

G:5 Genotype distributions of cod from the southeastern coast of Norway

G:6 Daily feeding rhythms and food intake of the Barents Sea cod and haddock in the summer of 1989

G:7 Distribution, abundance, and survival conditions of haddock fingerlings from the 1982-1989 year classes in the southern Barents Sea

G:8 Soviet investigations of cod, haddock and redfish within the Barents Sea and adjacent waters in 1989

G:9 Withdrawn.

G:10 Fisheries regulation measures and biological substantiation of the minimum landing site for the Arctic Norwegian cod and haddock

G:11 Estimation of rations and food consumption of deep-water redfish (Sebastes mentella) from the Norwegian-Barents Sea stock

G:12 Feeding peculiarities of Greenland halibut from the Norwegian-Barents Sea stock in 1980-1989


G:16 Food consumption rates among fish larvae belonging to different biological groups

G:17 Some features of fish food consumption estimates used by ecosystem modellers

G:18 The daily food consumption of Siganus fuscescens, an important herbivore in the seagrass communities of Bolinao, Pangasinan Province, Philippines

G:19 A generalised approach for estimating daily ration from stomach content dynamics
G:20  J. Alperi  Croissance des cardines (*Lepidorhombus whiffiagonis* et *L. boscii*) en Mer cantabrique (Division VIIc du CIEM)

G:21  H. Dupouy, D. Christien and B. Kergoat  Estimation de la mortalité par pêche et rendement par recvre du lieu jaune (*Pollachius pollachius*) du plateau celtique

G:22  B. Bogstad and S. Mehl  The consumption rate of North-East Arctic cod - a comparison of gastric evacuation models

G:23  Withdrawn.

G:24  R.B. Millar and R.A. Myers  Modelling environmentally induced change in growth for Atlantic Canada cod stocks

G:25  R.B. Millar, L. Fahrig and P.A. Shelton  Effect of capelin biomass on cod growth

G:26  L. Fahrig and B. Atkinson  Concurrent exploitation of multiple stocks: a redfish simulation study

G:27  M.A. van der Heessen and A.D. Rijnsdorp  The result of the 1989 egg surveys for cod and plaice

G:28  Withdrawn.

G:29  H.C. Welleman  Annual check formation in otoliths as a starting point for ageing by means of computer analysis

G:30  H. Gislason  Fishing patterns and yield variations

G:31  A. Temming and F. Köster  Stomach evacuation rates of cod and herring estimated from field data

G:32  Aa. Bjordal and T. Laevastu  Effects of trawling and longlining on the yield and biomass of cod stocks - numerically simulated

G:33  B. Hansen, A. Kristiansen and J. Reinert  Cod and haddock in Faroese waters and possible climatic influences on them

G:34  F.W. Köster et al.  Tank experiments on board: a useful tool for the estimation of stomach evacuation rates?

G:35  P.J. Bromley and J. Last  Feeding in the trawl and the consequences for estimating food consumption in natural fish populations

G:36  P.J. Bromley  International database of the results of gastric evacuation

G:37  M. Greer Walker and P.R. Witthames  The fecundity of sole (*Solea solea*) in ICES Division IVb in 1987 and 1988 and VIIId in 1988
Distribution and abundance of juvenile sole and plaice in the eastern English Channel from young fish surveys

Withdrawn.

The growth of ling (*Molva molva*) in populations along the continental shelf off Shetland, the Faroes, and Rockall

Icelandic investigations on the oceanic stock of *S. mentella* in the Irminger Sea in 1989 and 1990

Ageing and age composition of silver smelt (*Argentina silus* As.) in Icelandic waters

Further studies on young redfish in the East Greenland Shelf area

Withdrawn.

Feeding of hake and monkfish in the non-trawlable area of the shelf of the Cantabrian Sea

Preliminary report on the international O-group fish survey in the Barents Sea and adjacent waters in August-September 1990

Growth of Polar cod (*Boreogadus saida*) in the Barents Sea

Diet of Polar cod (*Boreogadus saida*) in the Barents Sea related to fish size and geographic distribution

Growth of O-group fish in relation to temperature conditions in the Barents Sea during the period 1965-1989

Report of the ICES Study Group on Cod Stock Fluctuations

Gastric evacuation in whiting (*Merlangius merlangus* L.)

Ad hoc tuning of non-annual virtual population analyses

Linear modelling of discard data from Scottish demersal fisheries

Comparison of catches of cod from Norwegian commercial trawlers and research vessels

Length selection during trawl sampling and its effect on abundance indices by age
Distribution and biology of *Sebastes mentella* in the Greenlandic part of the Irminger Sea in September 1989

Results of a stratified-random bottom trawl survey off Northeast Greenland in 1989

A long-line estimate of swept area abundance of cod in inshore areas of West Greenland

Report of the Study Group on Beam Trawl Surveys in the North Sea and English Channel, Ostende, 6-9 June 1990

Report of the Study Group on the Fecundity of Sole and Plaice in Sub-areas IV and VIII and Divisions VIId,e, Lowestoft, 18-21 September 1990

Remarks on the reliability of the abundance estimates derived from groundfish surveys conducted in Greenlandic waters

Food and condition of dab (*Limanda limanda* L.) from the Dogger Bank and the German Bight

Experimental estimation of food preference in cod - results of a pilot experiment

Withdrawn.

Swedish cod data from the International Young Fish Surveys, 1981-1990

Fisheries on the Dogger Bank

Whiting recruitment studies using discard data from the Northern Ireland *Nephrops* fishery

Icelandic 0-group fish survey

Aspects of gastric evacuation in the Atlantic cod (*Gadus morhua* L.)

Ideas for re-arrangement of Assessment Working Groups

**REFERENCE PAPERS FOR THE DEMERSAL FISH COMMITTEE**

B:16, C:4, C:36, D:6, D:21, D:24, D:26, D:34, D:35, D:36, E:4,
Report of Activities, 1989


A preliminary study of microstructure in otoliths of sea-caught mackerel (Scomber scombrus L.) larvae


Using GLM analysis on the IYFS herring data for the North Sea

Growth and maturation rate of Atlanto-Scandian herring in the 1950-1980s

Results of Soviet investigations on blue whiting in the Northeast Atlantic in spring 1989

Utilisation des informations satellitaires pour l'étude des particularités de répartition de la sardine dans l'Atlantique centre-est

Withdrawn.

Fish resources in oceanic areas of the North Atlantic

Etude du remplacement du contingent géniteur dans la population de chinchard, Trachurus symmetricus murphy (Nichols)


Distribution and growth of blue whiting in the North-East Atlantic

Some biological factors of blue whiting in the North-East Atlantic

Estimation of predation mortalities on capelin using a cod-capelin model for the Barents Sea

Larval distribution patterns: evidence for the collapse/recolonisation of Atlantic herring on Georges Bank

Atlantic mackerel egg production and spawner biomass estimates for the Gulf of St. Lawrence and Northeastern US waters, 1987
Distribution and mortality of pelagic eggs of by-catch species in the 1989 egg surveys in the southern North Sea

Horse mackerel egg production and spawning stock size in the North Sea in 1989

The choice of target fishing mortality in herring fisheries


Seasonal occurrence of pelagic fish eggs and larvae in the Cantabrian Sea (VIIc) and Galicia (IXa) from 1987 to 1989

An egg production estimate of biomass of the Bay of Biscay anchovy, *Engraulis encrasicholus* L. in 1989


Results of the 1989 AZTI-SIO egg surveys on mackerel, *Scomber scombrus*, and horse mackerel, *Trachurus trachurus*

On the inter-tidal spawning of Balsfjord herring (*Clupea harengus*)

Estimation of total potential fecundity and atresia in the Western mackerel stock 1989


Acoustic surveys on blue whiting north of the Faroes in August/September 1988 and 1989

A survey on herring south of the Faroes in June 1990


Trophic relationships between skipjack tuna (*Katsuwonus pelamia*), chub mackerel (*Scomber japonicus*), and silversides (*Atherina presbyter*) in the area of the Canary Islands

Results of the blue whiting otolith exchange

Results of blue whiting investigations in the northeast Atlantic in spring, 1990
H:39 N.A. Isaev and D. Minchin  
Results of research on blue whiting to the west of the Irish coast in spring 1989

H:40  
Report on the ICES Herring Larval Surveys in the North Sea and adjacent waters

REFERENCE PAPERS FOR THE PELAGIC FISH COMMITTEE

Report of Activities, 1989

List of Publications related to the interests of the Baltic Fish Committee

Allometric growth of the Baltic sprat otoliths

Application of image analysis system in sprat otolith studies

On herring reproduction in the northeastern Baltic

Dynamics of maturation of the Baltic sprat

Growth of the juvenile Baltic sprat

A century of Baltic sprat biology investigations: stock identification, recruitment, otoliths

Microstructure of the Baltic cod otoliths

A model for the embryonal period in the Baltic cod life history

Acoustic survey of the spawning stock of cod in the Eastern Baltic in 1989

Investigation on cod stomachs in the Western Baltic


Preliminary results of fecundity investigations of Rügen spring-spawning herring in 1988 and 1989

A new attempt to calculate consumption rates for cod (Gadus morhua) in the western Baltic

On the separation of catch projections for a stock with seasonal fisheries in different areas: herring assessment unit Division IIIa and western Baltic Sea

Structural changes in the Finnish trawl fishery in the 1980s and the identification of fishing strategies

The trends in Polish sprat landings and sprat biological characteristics in the Southern Baltic in the 1981-1986 period

Some aspects of straight-nosed pipefishes' (Nerophis ophidion L.) biology in the Gdansk Bay
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<td>Cod migrations in Southern Baltic</td>
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<td>Results of morphometric investigations on herring otoliths from the Western Baltic using an image analyser</td>
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<td>Community structure and niche relationships of young and small fish communities within the shallow water areas of a Baltic bay</td>
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<td>The herring swimbladder and salinity: a comparison of Baltic and Norwegian spring-spawning herring</td>
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<td>Report of the Study Group on Young Fish Surveys in the Baltic, Tvärminne, Finland, 3-7 September 1990</td>
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<td>J:30</td>
<td>A. Müller, K. Muhsin, and F. Köster</td>
<td>Ovarian maturation and batch fecundity in Baltic sprat from the Bornholm Basin, 1988</td>
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<td>J:32</td>
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<td>J:35</td>
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<td>Acoustic estimates of the herring and the sprat stocks in the Baltic proper October 1989</td>
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<td>J:36</td>
<td>E. Steffensen and O. Bagge</td>
<td>The landings per unit effort of cod, plaice, flounder, dab, turbot, and brill in the western Baltic 1963-1989 as estimated from the Bagenkop fleet</td>
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**REFERENCE PAPERS FOR THE BALTIC FISH COMMITTEE**

E:4, E:21, G:29, G:30, G:52
Report of Activities, 1989

Large-scale release experiment of juvenile lobsters, *Homarus gammarus*, in Norway

A preliminary report on the reproductive cycle of *Nephrops norvegicus* at the Faroes

Soviet investigations of shrimp, *Pandalus borealis*, in the Barents Sea and off the Spitsbergen area in 1989

Withdrawn.

Larval production of *Crangon septemspinosa* in waters adjacent to Chesapeake Bay, USA, in relation to oceanographic conditions

Distribution of *Crangon septemspinosa* larvae off Chesapeake Bay, USA: a comparison of field data and the results of a larval transport model

Withdrawn.

Total lipid content, and lipid and fatty acid composition of the deep-water prawn *Pandalus borealis* from Balsfjord, northern Norway: growth and feeding relationships

Mass mortalities of oysters (*Crassostrea gigas*) during the spring 1988 in the Bay of Marennes-Oléron (Atlantic coasts of France), related with environmental problems

Withdrawn.

The 1989 results from a lobster stock enhancement experiment on the east coast of England

The potential of aerial photography for estimating intertidal stocks of mussels (*Mytilus edulis*) in the Wash, England

An assessment of the shellfish Portuguese fishery (ICES Division IXa) and management strategies results

Publications of interest to the Shellfish Committee, 1990

Foraging activity in common shore crabs, *Carcinus maenas* on a blue mussel bed

Withdrawn.
Trophic capacity of the Bay of Marennes-Oléron: coupling a model of transport of particulate matter and a model of growth of Crassostrea gigas

Decline of oyster production in the Maryland portion of the Chesapeake Bay: causes and perspectives

Spatial patterns of variability in length frequency distribution of Nephrops in the Irish Sea

The Irish fishery for Nephrops on the Porcupine Bank

Growth of scallop juveniles (Pecten maximus) in an enriched shallow sea water basin

REFERENCE PAPERS AND POSTER FOR THE SHELLFISH COMMITTEE

D:18, D:34, E:32, N:8 (Poster)
L:2  J.H. Cowan, Jr. and E.D. Houde  Estimates of relative predation potential by medusae, ctenophores and fish on ichthyoplankton in Chesapeake Bay
L:3  E.D. Houde  Temperature-dependent and size-dependent variability in vital rates of marine fish larvae
L:5, L:6, and L:7  Withdrawn.
L:8  R. Ian Perry et al.  The Georges Bank frontal system: mechanisms of plankton retention or dispersal
L:9  Withdrawn.
L:10  H. Auf dem Venne  Distribution of auto-., mixo, and heterotrophic plankton ciliates in the Greenland Sea in late spring and fall 1988
L:11  Y. Desaunay et al.  ZEBULON, a simple suprabenthic sampling gear for ichthyoplankton studies over the continental shelf
L:12  E. Marchal, F. Gerotto and B. Stequert  Scattering layer of micronekton, thermal structure and tuna abundance in the Atlantic equatorial current system
L:13  K. Richardson and A. Christoffersen  Annual distribution and production of phytoplankton in the southern Kattegat
L:14  B. Reguera, I. Bravo and S. Fraga  Distribution of Dinophysis acuta at the time of a DSP outbreak in the Rias of Pontevedra and Vigo (Galicia, NW Spain)
L:15  M.E. Huntley Sess.V  Physiological rate measurements of zooplankton production rates - Beyond this broken promise
L:16  Withdrawn.
L:17  D.V. Holliday et al.  Acoustic assessment of zooplankton in the Irish Sea
L:18  P. Juel Hansen  The annual cycle of heterotrophic dinoflagellates in the Kattegat; with emphasis on the trophic role in the marine microbial food web
L:19  T. Gissel Nielsen  Contribution of zooplankton grazing in the decomposition of a Ceratium bloom

L:16  Rodríguez F.M. et al.: Ichthyoplankton community in the Southern...
Enhanced zooplankton processing with image analysis technology

Zooplankton biomass on Georges Bank 1977-1986

Comparative stability of zooplankton communities of the Northeast US Shelf ecosystem and the North Sea ecosystem in relation to climatic variability

Large marine ecosystems as global units for management: an ecological perspective

Filter feeding by Appendicularians: various estimates of their grazing on Synechococcus sp. (cyanobacteria)

A review of the gut fluorescence method for estimating ingestion rates of planktonic herbivores

In situ measurements of copepod production: a comparison of two methods

A steady state trophic model for a highly productive embayment: Concepcion Bay, Chile

Trophic analysis of macrofauna, nektonic food consumption, and shrimp predation by fishes in Terminos Lagoon, Mexico

The pelagic zone of central Lake Malawi - a trophic box model

Ems estuary ecosystem model

An ecosystem model of Monterey Bay, California (merged with L:33)

A trophic model of Georges Bank

A quantitative energy flow model of the Mulberry Dike - Carp pond integrated farming system of the Zhujiang Delta, Guangdong Province, People's Republic of China

A trophic model of a Mediterranean lagoon, Etang de Thau, France
Towards a conceptual model for the Antarctic marine ecosystem

A quantitative steady-state model of the trophic interactions in a Caribbean coral reef ecosystem

The ecosystem of Lake Kinneret, Israel

First approach for a trophic model for Tamiahua, a coastal lagoon in Mexico

A trophic model of the shallow-water fisheries resources of Brunei Darussalam, South China Sea

Trophic relationships of major food fishes in a semi-enclosed estuary of the southwest coast of India

Size-structured models of continental shelf food webs

Trophic model in an estuarine ecosystem of the southeast coast of India

The detrital cycle and its interaction with higher trophic levels

A steady-state trophic model of the North Sea

Seasonal changes in the Peruvian upwelling ecosystem

Trophic dynamic structure of Celestun Lagoon, South Gulf of Mexico

Trophic fluxes in a beach seine fishery of the Campeche Bank
Trophic box model of a coastal fish community of the Western Gulf of Mexico
F. Arreguin-Sanchez, E. Valero-Pacheco and E.A. Chavez
Poster

Trophic relationships in Mandinga Laboo Lagoon, Veracruz, Mexico
G. de la Cruz
Poster

An ecosystem model of a tropical reef flat in Santiago Island, Bolinao, Pangasinan, Philippines
P.M. Alino et al.
Poster

A preliminary ecosystem model of an eutrophic lake (Lake Aydat, France)
P. Reyes-Marchant et al.
Poster

An application of ECOPATH II model for analysis of the marine community of the North Continental Shelf of Yucatan, Mexico
F.A. Sanchez, J.C. Seijo and E. Valero-Pacheco
Poster

An ecosystem model of a tropical reef flat in Santiago Island, Bolinao, Pangasinan, Philippines
P.M. Alino et al.
Poster

Trophic relationship in the fish community of Lake Victoria, with emphasis on the impact of Nile perch Latex niloticus
J. Moreau, W. Ligtvoet and M.L. Palomares
Poster

A trophic model of Golfo Triste, Venezuela
R. Molinet et al.
Poster

A trophic model for Lake Kariba, Zimbabwe
H. Masundire et al.
Poster

A trophic model of Lake McIlwaine, Zimbabwe
B. Marshall
Poster

Withdrawn.

Trophic interactions in a napier grass (Pennisetum purpureum)-fed aquaculture pond in Malawi
A.A. van Dam, B.A. Costa-Pierce and F. Chikafum
Poster

Resource flows in crop-pond aqua ecosystems in Malawi
R.P. Noble and S. Chimatiro
Poster

Efficient aggregation of boxes in trophic ecosystem models
A.D. Pongase
Poster

Three new approaches for the graphical representation of box models of ecosystems
D. Pauly and V. Christensen
Poster
L:68 V. Christensen and D. Pauly
Sess.Q Poster
The ECOPATH II Model

L:69 V. Christensen and D. Pauly
Sess.Q Poster
Global comparison

L:70 U.S. Amarasami
Sess.Q Poster
An energy-flow model of Parakrama Samudra, an ancient
reservoir in Sri Lanka

L:71 A.D. Buijse et al.
Sess.Q Poster
A trophic model for IJsselmeer (The Netherlands) - a
shallow eutrophic lake

L:72 C. de la Cruz et al.
Sess.Q Poster
Steady-state models of a rice paddy ecosystem with and
without fish

L:73 V. Christensen and D. Pauly
Sess.Q Poster
Size-specific predation and "box" modelling

L:74 M.V. Angel and P.M. Hargreaves
Sess.V Poster
Latitudinal patterns in biomass and diversity profiles of planktonic and micronektonic communities in the
northeastern Atlantic

L:75 W. Greve
Sess.V Poster
Simulation-supported sequential synoptic sampling

L:76 Withdrawn.

L:77 B.I. Bergström, A. Gustavsson and J.O. Strömberg
Sess.V Poster
Determination of abundance of gelatinous plankton with a remotely operated vehicle (ROV)

L:78 H.-J. Hirche
Sess.V Poster
Towards a model of egg production in Calanus finmarchicus laboratory and field observations

L:79 J.C. Roff and J.A. Berges
Sess.V Poster
An enzyme index of zooplankton growth rate

L:80 H.G. Fransz
Sess.V Poster
Life cycle and production in Antarctic epipelagic copepods

L:81 D. Sameoto et al.
Sess.V Poster
Use of multiple frequency acoustics and other methods in estimating copepod and euphausiid abundance and biomass

L:82 Withdrawn

L:83 B. Hansen
Sess.V Poster
Functional relationship, particle retention, and selectivity of phytoplankton by planktrotrophic benthic larvae exemplified by a gastropod veliger
Assessing the role of gelatinous zooplankton in the marine environment - a critique

Acceptance characteristics of the Lowestoft high speed plankton samplers: the conical nose cone

Preliminary observations on picoplankton biomass in Canary Islands waters

Seasonal distribution of zooplankton in Canary Island waters in the upper 200 metres

First approach to the knowledge of ichthyoplankton in the Canary Island waters: spatial and temporal variability of ichthyoplankton abundance and zooplankton biomass

A comparative study on the vertical distribution of fish and cephalopod larvae in three hydrographically and ecologically different areas of the Arabian Sea (preliminary results)

Development of an underwater video system for recording of ichthyoplankton and zooplankton

Growth strategies of fish larvae

Presentation of a biological database for species of current or future importance to aquaculture or fisheries

Zooplankton community abundance coherence and stability of the Northeast Shelf ecosystem

Ocean color applications in 1990: surviving the data gap


The sampling efficiency of a horizontally towed Bé multiple-opening-closing-net

Improvements in the fluorimetric determination of the RNA- and DNA-content in individual marine fish larvae

A comparison of the nutritional condition of herring larvae as determined by two biochemical methods - tryptic enzyme activity and RNA/DNA ratio measurement

Spawning strategy and a mechanism for adaptive larval production in Arcto-Norwegian cod

Interactive computer taxonomy of marine algae
| L:102 | T. Noji and K. Estep | Poster | Protistan associations with fecal pellets |
| L:104 | J.A. Runge | Sess.V | Egg production rates of Calanus finmarchicus in the Gulf of St. Lawrence |
| L:105 | J.A. Runge | Sess.V | List of publications of interest to the Biological Oceanography Committee, 1989 |
| L:107 | A. Corten | Sess.V | Efficiency measurements of Gulf III and HAI plankton samplers in a towing tank |
| L:108 | S. Alshuth | Sess.V | Respiration and excretion rates of copepods from the Northwest Atlantic Ocean |
| L:110 | | | Withdrawn. |
| L:111 | | Ref.Pub | Report of the Editor of the Plankton Identification Sheets |
| L:112 | J. Csirke | Sess.Q | Simplified trophic interactions in the Northern Patagonia and Bonaerensis area in the Southwest Atlantic |
| L:113 | S. Barnard | Sess.Q | Trophic dynamics in a gravel pit lake ecosystem |
| L:114 | | Poster | Withdrawn. |
| L:115 | R. de Paula E Silva et al. | Sess.Q | Fisheries productivity modelling of Maputo Bay, Mozambique |
| L:116 | J.A. Browder | Sess.Q | Trophic flows and organic matter budget, Gulf of Mexico continental shelf |

**REFERENCE PAPERS FOR THE BIOLOGICAL OCEANOGRAPHY COMMITTEE**

**M:1**
Report of Activities, 1989

**M:2**

**M:3**

**M:4**
ICES Compilation of Microtag, Finclip, and External Tag Releases in 1989

**M:5**
E.D. Houde and L.G. Morin
Temperature effects on otolith daily increment deposition in striped bass and white perch

**M:6**
V.A. Anokhina and N.K. Vorobieva
Comparative characteristics of developing eggs and early life stages of Atlantic salmon (*Salmo salar* L.) from different rivers

**M:7**
T.K. Lebskaya et al.
Dynamics of biochemical indices for reared juveniles of Atlantic salmon (*Salmo salar* L.) during smoltification

**M:8**
A.V. Zubtchenko, A.F. Sharov and O.G. Kuzmin
Atlantic salmon of the River Tuloma as the salmon stock index of the Barents Sea basin

**M:9**
A.F. Sharov
Simulation model of Atlantic salmon population

**M:10**
Withdrawn.

**M:11**
List of publications related to the interests of the Anadromous and Catadromous Fish Committee, 1989

**M:12**
M. Hildén and S. Kuikka
The analytical hierarchy process as a tool for analysing the perceptions of the salmon management problem in Finland

**M:13**
R. Trzebiatowski and J. Domagala
Efficiency of stocking small streams with the sea trout (*Salmo trutta* L.) hatch of different age

**M:14**
C. Eriksson
Experimental tagging of young salmon (*Salmo salar* L.) and sea-trout (*Salmo trutta* L.) with different types of the Carlin tag

**M:15**
V.A. Pepper and M.F. O'Connell
Coded wire microtagging of Atlantic salmon (*Salmo salar* L.) in Newfoundland, Canada

**M:16**
E.J. Chesney

**M:17**
I. Fjallstein
Relative decline of sample total weight in seawater challenge tests as a smolt quality criterion

**M:18**
A. Moore et al.
A technique for tracking Atlantic salmon (*Salmo salar* L.) smolts through estuaries

**M:19**
I.C. Russell et al.
A telemetric tracking system for high-resolution monitoring of fish movements
I.C. Russell et al. Recoveries of coded wire microtags from salmon caught at West Greenland in 1989

I. Borzecka, E. Ikonen and I. Torvi Attempts of using the discriminant function based on scale structure of Baltic salmon to distinguish between the wild and hatchery-reared smolts

M. Hildén Salmon stocks and management advice - assessing the assessment reports

W.S. Davidson et al. A polymorphism in the ribosomal RNA genes distinguishes Atlantic salmon (Salmo salar L.) from North America and Europe

REFERENCE PAPERS FOR THE ANADROMOUS AND CATAKROMOUS FISH COMMITTEE

D:17, F:51, F:55, F:64, F:75
**N - MARINE MAMMALS COMMITTEE**

| N:1 | Report of Activities, 1989 |
| N:2 | Rapport annuel sur les Cétacés et Pinnipèdes trouvés sur les côtes de France en 1989 |
| N:3 | Variation de fréquence chez les Cétacés échoués sur les côtes de France au cours des 10 dernières années 1980-1989 |
| N:4 | The abundance and state of the stock of harp seals and hooded seals in the Greenland Sea |
| N:5 | Distribution and abundance of cetaceans in Icelandic and adjacent waters during sightings surveys July-August 1989 |
| N:6 | Harp seal (*Phoca groenlandica*) invasions in north Norwegian coastal waters: a preliminary report on age composition and feeding habits |
| N:7 | Withdrawn. |
| N:8 | Squid in the diet of sperm whales off the Azores |
| N:9 | Les mammifères marins du nord de l'Espagne en 1989 |
| N:10 | A review of the distribution, migrations, food, reproduction, exploitation and present abundance of humpback whales (*Megaptera novaeangliae*) in the Northeast Atlantic |
| N:11 | The effect of invading harp seals (*Phoca groenlandica*) on local coastal fish stocks of North Norway |
| N:12 | Organochlorines in Baltic seals in 1980s |
| N:13 | Les populations de phoques dans le Golfe de Finlande au cours des années 1980 |
| N:15 | List of publications of interest to the Marine Mammals Committee, 1989 |
| N:16 | Withdrawn. |
First record of fish intermediate hosts of Contra-caecum spp. larvae, probably C. osculatum. Rudolphi 1802, an anisakine nematode maturing in pinnipeds, in the German Wadden Sea.

YoNAH: years of the North Atlantic humpback whale. A proposal for discussion

Withdrawn.
MINI-SYMPOSIUM ON BENTHIC ECOLOGY OF THE NORTH SEA

Mini:1 A. Eleftheriou Planning and execution of the North Sea Benthos Survey and C. Heip

Mini:2 A. Küntzer et al. The benthic infauna of the North Sea: species distribution and assemblages


Mini:4 H.L. Rees et al. Spatial and temporal trends in the benthos and sediments in relation to sewage sludge disposal off the northeast coast of England

Mini:5 U. Niermann Oxygen deficiency in the southeastern North Sea in summer 1989

Mini:6 A. Eleftheriou The sedimentary environment of the North Sea

Mini:7 P.F. Kingston Impact of offshore oil production installations on the benthos of the North Sea

Mini:8 R. Huys and C. Heip Meiofauna of the North Sea Benthos Survey

Mini:9 G. Duineveld and G.J. van Noort Geographical variation in the epifauna of the southern North Sea and adjacent regions

Mini:10 C. Heip et al. Statistical analysis and trends in biomass and diversity of North Sea macrofauna

Mini:11 M. Bergman et al. Direct effects of commercial beamtrawl fishing on benthic fauna in the North Sea

REFERENCE POSTER FOR THE MINI-SYMPOSIUM

L:103 C. Noji, T. Noji and K.G. Barthel Benthic activity and respiration in a northern Norwegian fjord in late autumn
PAPERS AND POSTERS FOR THEME SESSIONS

The Consumption Rate in Marine Fish (Q) Convener: Mr. H. Sparholt, (Denmark)
G:63, G:69, J:15

Remote Sensing Applications in Monitoring Programmes (P) Convener: Dr R. Dörffer
(Federal Republic of Germany)
B:13, C:11, C:12, C:14, C:15, C:29, C:33 (Poster), C:37, C:41, C:42, E:19, H:9,
K:14, L:94

Poster Session on Trophic Models of Marine Ecosystems(Q) Conveners: Dr D. Pauly
(Federal Republic of Germany) and Mr V. Christensen (Denmark)
G:4, H:36, K:19, L:28 to and including L:47, and L:50 to and including L:73,

Acoustic Methods (R) Convener: Dr J. Traynor (USA)
B:2, B:4, B:9, B:10, B:11, B:12, B:21, B:22, B:23, B:24, B:30, B:31, B:33, B:38,
B:40, B:41, B:49, B:50, J:26, L:12, L:17 (Ref. from Session V: L:81)

ACFM and Associated Working Group Reports (S) Convener: Mr. D. de G. Griffith,
(Ireland)
Assess:1 to Assess:25 included, and Assess:28 and 29; G:10, G:70, H:3, H:21,
M:12

ACMP and Related Working Group Reports (T) Convener: Mr J. Jakobsson (Iceland)
Poll:1 to and including Poll:7; C:8, E:28, F:12, F:13, N:14

Fishing Gear Selectivity (U) Convener: Mr D.N. MacLennan (UK)
B:3, B:14, B:26, B:27, B:28, B:34, B:46, G:54, G:55

Recent Developments in the Measurement of Zooplankton Production Rates and
Biomass Characteristics (V) Conveners: Dr J. Gamble (UK) and Mr H. Skjolddal
(Norway)
ACFM - ADVISORY COMMITTEE ON FISHERY MANAGEMENT

ACFM:1*  Agenda, ACFM Consultations at the 1990 Statutory Meeting, 3 October 1990

ACFM:2*  Draft Agenda, ACFM, 30 October - 7 November 1990

ACFM:3*  Draft Proposal from ACFM: Terms of Reference for ACFM and Assessment Working Groups in 1991

*For the relevant Committee only.
ASSESSMENT WORKING GROUPS REPORTS 1990

Assess:1 Report of the Working Group on Multispecies Assessment of Baltic Fish, Moscow, 4-8 September 1989
Assess:2 Report of the Irish Sea and Bristol Channel Working Group, Copenhagen, 13-19 September 1989
Assess:4 Report of the Arctic Fisheries Working Group, Copenhagen, 19-28 September 1989
Assess:5 Report of the Atlantic-Scandian Herring and Capelin Working Group, Copenhagen, 16-20 October 1989
Assess:6 North Sea Flatfish Working Group, Copenhagen, 20-26 October 1989
Assess:10 Report of the Division IIIa Demersal Stocks Working Group, Copenhagen, 28 February - 6 March 1990
Assess:20  Report of the North-Western Working Group, Copenhagen, 1-8 May 1990
Assess:29  ACFM comments on stock assessment working group reports: a supplement (for working groups) to the ACFM minutes of November 1989 and May 1990
AGENDA FOR THE ADVISORY COMMITTEE ON MARINE POLLUTION

ACMP:1* Agenda for the Advisory Committee on Marine Pollution - Consultations Meeting, 3 October 1990

ACMP:2* Work Programme from the Oslo and Paris Commissions

ACMP:3* Requests from the Helsinki Commission

ACMP:4* Tasks for Study/Working Groups reporting to ACMP

ACMP:5* Report on the Statistical Analysis of CMP Data on Contaminants in Fish Liver and Mussels

ACMP:6* Critical Review of Contaminants in Sediments

ACMP:7* Results of the ICES Baseline Study on Trace Metals in Coastal and Shelf Waters

*For the relevant Committee only.
**POLLUTION-RELATED WORKING GROUP REPORTS**

Poll: 1  
Ref. C and E  

Poll: 2  
Ref. C and E  

Poll: 3  
Ref. E  
Report of the Working Group on Marine Sediments in Relation to Pollution, Lisbon, 3-6 April 1990

Poll: 4  
Ref. E  

Poll: 5  
Ref. E  

Poll: 6  
Ref. D + E  

Poll: 7  
Ref. F + L  
Report of the Working Group on Phytoplankton and the Management of their Effects, Oban, Scotland, 3-7 April 1990