

## List of ICES CM 2012 document codes

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### Joint ACOM/SCICOM

ACOM/SCICOM:01 Ref. ACOM, SCICOM	Report on the Classification of Stock Assessment Methods developed by SISAM
ACOM/SCICOM:02 Ref. ACOM, SCICOM	ICES Data Policy 2012

### ACOM Advisory Committee

ACOM:01	Advisory Committee (ACOM)
ACOM:02	Partner Commissions (MIRIA)
ACOM:03	Regional Advisory RACs and ACOM leadership (MIRAC)
ACOM:04	Annual Meeting of Advisory Working Group Chairs (WGCHAIRS)
ACOM:05	Arctic Fisheries Working Group (AFWG)
ACOM:06	Herring Assessment Working Group for the Area South of 62°N (HAWG)
ACOM:07	North-Western Working Group (NWWG)
ACOM:08 Ref. PGCCDBS.	Baltic Salmon and Trout Assessment Working Group (WGBAST)
ACOM:09 Ref. WKESDCF	Working Group on North Atlantic Salmon (WGNAS)
ACOM:10	Baltic Fisheries Assessment Working Group (WGBFAS)
ACOM:11	Working Group on the Assessment of Southern Shelf Stocks of Hake, Monk and Megrin (WGHMM)
ACOM:12	Working Group for the Celtic Seas Ecoregion (WGCSE)
ACOM:13	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak (WGNSSK)
ACOM:14	Joint NAFO/ICES <i>Pandalus</i> Assessment Working Group (NIPAG)
ACOM:15	Working Group on Widely Distributed Stocks (WGWIDE)
ACOM:16	Working Group on Southern Horse Mackerel, Anchovy and Sardine (WGHANSA)
ACOM:17	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP)
ACOM:18 Ref. WGRECORDS, SGEF, and EIFAAC	Joint EIFAC/ICES Working Group on Eels (WGEEL)
ACOM:19	Working Group on Elasmobranch Fishes (WGEF)
ACOM:20 Ref. SSGSUE, WGNSSK, WGCSE, WGHMM, WGHANSA	Working Group on Assessment of New MoU Species (WGNEW)
ACOM:21	Fishery Statistics Liaison Working Group (WGSTAL)
ACOM:22	Working Group on Mixed Fisheries Advice for the North Sea (WGMIXFISH)

ACOM:23	Working Group on Recreational Fisheries Surveys (WGRFS)
ACOM:24	Study Group on Recruitment Forecasting (SGRF)
ACOM:25	Second Workshop on Redfish and Oceanographic Conditions (WKREDOCE2)
ACOM:26	Working Group on the Ecosystem Effects of Fishing Activities (WGECO)
ACOM:27	Working Group on Marine Mammal Ecology (WGMME)
ACOM:28	Working Group on Bycatch of Protected Species (WGBYC)
ACOM:29	ICES/NAFO Joint Working Group on Deep-water Ecology (WGDEC)
ACOM:30	ICES/IOC/IMO Working Group on Ballast and Other Ship Vectors (WGBOSV)
ACOM:31	ICES Working Group on Introduction of Transfers of Marine Organisms (WGITMO)
ACOM:32	Workshop on the Evaluation of Plaice Stocks (WKPESTO)
ACOM:33	ICES/HELCOM Workshop on Flatfish in the Baltic Sea (WKFLABA)
ACOM:34	Workshop on Frequency of Assessments (WKFREQ)
ACOM:35	Second Ad Hoc Group on Criteria for Reopening Fisheries Advice (AGCREFA2)
ACOM:36	Workshop on the Development of Assessments based on LIFE history traits and exploitation characteristics (WKLIFE)
ACOM:37	Third Workshop on Implementing the ICES MSY Framework (WKFRAME3)
ACOM:38	Ad Hoc Group on the Distribution and Migration of Northeast Atlantic Mackerel (AGDMM2)
ACOM:39	Second Workshop on the evaluation of a modified HCR for western horse mackerel management plan (WKWHMMP2)
ACOM:40	Workshop on Integrated/Multispecies Advice for Baltic Fisheries (WKMULTBAL)
ACOM:41	Inter Benchmark Protocol for Baltic salmon (IBPsalmon)
ACOM:42	Inter Benchmark Protocol for <i>Nephrops</i> on Divisions VIIIa,b: FU 23-24 and <i>Nephrops</i> in FU 28-29 (IBPNephrops)
ACOM:43	Inter Benchmark Protocol for Norway pout North Sea stock (IBPNorwayPout)
ACOM:44	Inter Benchmark Protocol for <i>Pandalus</i> in Skagerrak and Norwegian Deep (IBPPand)
ACOM:45	Inter Benchmark Protocol for turbot and sea bass (IBPNEW)
ACOM:46	Benchmark Workshop on Flatfish Species and Anglerfish (WKFLAT)
ACOM:47	Benchmark Workshop on Pelagic Stocks (WKPELA)
ACOM:48	Benchmark Workshop on Redfish (WKRED)
ACOM:49	Benchmark Workshop on Western Waters Roundfish (WKROUND)
ACOM:50	Planning Group on Commercial Catches, Discards and Biological Sampling (PGCCDBS)
ACOM:51 Ref. PGCCDBS	Study Group on Practical Implementation of Discard Sampling Plans (SGPIDS)
ACOM:52 Ref. PGCCDBS, RCMs, STECF/SGRN	Second Workshop on practical implementation of statistical sound catch sampling programmes (WKPICS2)
ACOM:53 Ref. PGCCDBS	Workshop on Age Estimation Methods of Deep Water Species (WKAMDEEP)
ACOM:54 Ref. PGCCDBS.	Workshop on Age Reading of horse mackerel ( <i>Trachurus trachurus</i> ), Mediterranean horse mackerel ( <i>Trachurus mediterraneus</i> ) and blue jack mackerel ( <i>Trachurus picturatus</i> ) (WKARHOM)
ACOM:55 Ref. PGCCDBS	Workshop on sexual maturity staging of sole, plaice, dab and flounder (WKMSSPDF2)
ACOM:56 Ref. PGCCDBS	Workshop on Sexual Maturity Staging of Turbot and Brill (WKMSTB)

ACOM:57 Ref. PGCCDBS	Workshop on Sexual Maturity Staging of Cod, Whiting, Haddock, Saithe and Hake (WKMSGAD)
ACOM:58 Ref. PGCCDBS	Workshop for maturity staging chairs (WKMATCH)
ACOM:59 Ref. WGEF, RCM, PGMed and PGCCDBS	Workshop on sexual maturity staging of elasmobranchs (WKMSSEL-2)
ACOM:60 Ref. WGNEW, PGMed, PGCCDBS	Workshop on Age reading red mullet ( <i>Mullus barbatus</i> ) and striped red mullet ( <i>Mullus surmuletus</i> ) [WKACM2]
ACOM:61 Ref. PGCCDBS, WGRECORDS, WGNAS, WGBAST, SSGEF and SCICOM	Workshop on Age Determination of Salmon (WKADS-2)
ACOM:62 Ref. PGCCDBS and WGEEL, WGNAS and WGRECORDS	Workshop on Eel and Salmon DCF Data (WKESDCF)
ACOM:63	Workshop to evaluate the EU-Russian proposal for harvest control component of the management plan for Rockall haddock (WKROCKHALL)
ACOM:64 Ref. WGDIM, WGBFAS	Report of the Training Workshop on the Regional Database - Baltic (WKRDB-Baltic)
ACOM:65	Updated assessment of sandeel in IV, Area 1. May update of the WGNSSK report March 2012
ACOM:66 Ref. WGDIM	EU/ICES Steering Committee for the Regional Databases
ACOM:67	Inter Benchmark Protocol for Megrim in Subarea IV and Division IVa (IBPMeg)
ACOM:68	ICES' Implementation of RGLIFE advice on Data Limited Stocks (DLS)
ACOM:69	Note on management strategies for Norway pout in the North Sea and Skagerrak with updated risk calculation
ACOM:70	Evaluation of Proposed Amendments to the North Sea Flatfish Multiannual Plan
ACOM:71	WKM-Trade
ACOM:72	Workshop for revision for the North Sea Herring Long term management plan (WKHELP)
ACOM:73	De Oliveira José, Jonathan Gillson, Chris Darby. North Sea saithe Management Strategy Evaluation. Centre for Environment, Fisheries and Aquaculture Science, United Kingdom.
ACOM:74	Report of the Working Group on Mixed Fisheries Advice for the North Sea (WGMIXFISH2)
ACOM:75	Clarke, M. and Egan, F. Evaluation of proposed long term management plan for celtic sea herring. Marine Institute, Ireland.
ACOM:76	Material provided to ICES for advice on proposed fisheries measures for Cleaver Bank and Frisian Front. The FIMPAS project September 2012.

ACOM:77	Material provided to ICES for advice on proposed fisheries measures for the Dogger Bank Special Area of Conservation. Dogger Bank Steering Group September 2012.
ACOM:78	ACOM Consultations, September 2012
ACOM:79	The Workshop to finalize the ICES' Data-Limited Stock (DLS) methodologies documentation in an operational form for the 2013 advice season and to make recommendations on target categories for data-limited stocks (WKLIFE2)
ACOM:80	Report providing the documentation of the Dogger Bank Steering Group
ACOM:81	Report providing the documentation of the FIMPAS Project
ACOM:82	The Joint ICES/OSPAR Ad hoc Group on Seabird Ecology (AGSE)
ACOM:83	Joint OSPAR/ICES Ocean Acidification Study Group (SGOA)

#### **PUBCOM Publications and Communications Group**

PUBCOM:01 Ref. SCICOM	Report of the Publications and Communications Group
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**SCICOM Science Committee**

SCICOM:01 Ref. Bureau, Council	Midterm report of the ICES Science Committee (SCICOM)
SCICOM:02 Ref. Council	SCICOM Progress Report 2012
SCICOM:03 Ref. Council	Minutes from the meeting of the ICES Science Committee (SCICOM)

**SCICOM Operational Groups**

WGDIM:01 Ref. SCICOM	Working Group on Data and Information Management (WGDIM)
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**SCICOM Steering Group on Ecosystem Functions (SSGEF)**

SSGEF:01 Ref. SCICOM	Workshop to Define the Ocean Observing Needs for ICES (WKOOI)
SSGEF:02 Ref. SCICOM	Working Group on Biodiversity Science (WGBIODIV)
SSGEF:03 Ref. SCICOM and ACOM	Working Group on Oceanic Hydrography (WGOH)
SSGEF:04 Ref. SCICOM	Working Group on Cephalopod Fisheries and Life History (WGCEPH)
SSGEF:05 Ref. SCICOM	Working Group on Phytoplankton and Microbial Ecology (WGPME)
SSGEF:06 Ref. SCICOM and ACOM	Working Group on Zooplankton Ecology (WGZE)
SSGEF:07 Ref. SCICOM	Benthos Ecology Working Group (BEWG)
SSGEF:08 Ref. SCICOM	Working Group on the Biology and Life History of Crabs (WGCRAB)
SSGEF:09 Ref. SCICOM	Working Group on <i>Crangon</i> fisheries and life history (WGCRAN)
SSGEF:10 Ref. SCICOM	Working Group on Small Pelagic Fishes, their Ecosystems and Climate Impact (WGSPEC)
SSGEF:11 Ref. SCICOM	Working Group on the Science Requirements to Support Conservation, Restoration and Management of Diadromous Species (WGRECORDS)
SSGEF:12 Ref. WGZE and SCICOM	Study Group on Integrated Morphological and Molecular Taxonomy (SGIMT)
SSGEF:13 Ref. BEWG and SCICOM	Workshop on Effects of Offshore Windfarms on Marine Benthos - Facilitating a closer international collaboration throughout the North Atlantic Region (WKEOMB)
SSGEF:14 Ref. BEWG, SCICOM and ACOM	Study Group on Climate Related Benthic Processes in the North Sea (SGCBNS)
SSGEF:15 Ref. SCICOM and ACOM	Working Group on Seabird Ecology (WGSE)
SSGEF:16 Ref WGRECORDS, WGNAS and SCICOM	Workshop on Salmon Tagging Archive (WKSTAR) (2010 C. Res.)
SSGEF:17 Ref. SCUICOM	Workshop on Forecasting Ecosystem Indicators with Climate-driven Process Models (WKECOFOR)
SSGEF:18 Ref. SCICOM	Working Group on Fish Ecology (WGFE)

### SCICOM Steering Group on Human Interactions on Ecosystems (SSGHIE)

SSGHIE:01 Ref. SCICOM and ACOM	Joint HELCOM-VASAB, OSPAR and ICES Workshop: A Multi-Disciplinary Case-Study of MSP (WKMCMSMSP)
SSGHIE:02 Ref. SCICOM	Joint DFO, KnowSeas and ICES Workshop: Quality assurance of scientific and integrated management processes for use in marine planning and coastal zone management (WKQAMSP)
SSGHIE:03 Ref. SCICOM and ACOM.	Working Group on Pathogens and Diseases of Marine Organisms (WGPDMO)
SSGHIE:04 Ref. SCICOM	Working Group on Biological Effects of Contaminants (WGBEC)
SSGHIE:05 Ref. SCICOM and ACOM	Marine Chemistry Working Group (MCWG)
SSGHIE:06 Ref. SCICOM and ACOM	Working Group on Marine Sediments in Relation to Pollution (WGMS)
SSGHIE:07 Ref. SCICOM and ACOM	Working Group for Marine Planning and Coastal Zone Management (WGMPCZM)
SSGHIE:08 Ref. SCICOM	ICES/IOC/PICES Workshop on "HABs in a Changing World" (WKHABCW)
SSGHIE:09 Ref. SCICOM	ICES-IOC Working Group on Harmful Algal Bloom Dynamics (WGHABD)
SSGHIE:10 Ref. SCCOM	Study Group on Socio-Economic Dimensions of Aquaculture (SGSA)
SSGHIE:11 Ref. SCICOM	Working Group on the Effects of Extraction of Marine Sediments on the Marine Ecosystem (WGEXT)
SSGHIE:12 Ref. SCICOM	Working Group on the Application of Genetics in Fisheries and Mariculture (WGAGFM)
SSGHIE:13 Ref. SCICOM	Workshop on Wave and Tidal Energy Test Sites (WKWTETS)
SSGHIE:14 Ref. SCICOM	Study Group on Environmental Impacts of Wave and Tidal Energy (SGWTE)
SSGHIE:15 Ref. SCICOM	Working Group on Marine Shellfish Culture (WGMASC)
SSGHIE:16 Ref. SCICOM	Working Group on Environmental Interactions of Mariculture (WGEIM)

**SCICOM Steering Group on Ecosystem Surveys Science and Technology (SSGESST)**

SSGESST:01 Ref. SCICOM, WKPELA and WGWIDE	Workshop on implementing a new TS relationship for blue whiting abundance estimates (WKTBLUES)
SSGESST:02 Ref. SCICOM, ACOM	Baltic International Fish Survey Working Group (WGBIFS)
SSGESST:03 Ref. SCICOM, WGISUR, and ACOM	International Bottom Trawl Survey Working Group (IBTSWG)
SSGESST:04 Ref. SCICOM, WGISUR, ACOM and WGWIDE	Working Group on Mackerel and Horse Mackerel Egg Surveys (WGMEGS)
SSGESST:05 Ref. WGISUR, ACOM and WGWIDE	Workshop on Survey Design and Mackerel and Horse Mackerel Spawning Strategy (WKMSPA)
SSGESST:06 Ref. SCICOM and ACOM	Study Group on Electrical Trawling (SGELECTRA)
SSGESST:07 Ref. SCICOM and ACOM	ICES-FAO Working Group on Fishing Technology and Fish Behaviour (WGFTFB)
SSGESST:08 Ref. SCICOM, WGFAST and ACOM	Study Group on Calibration of Acoustic Instruments in Fisheries Science (SGCal)
SSGESST:09 Ref. SCICOM and ACOM	Working Group on Fisheries Acoustics, Science and Technology (WGFAST)
SSGESST:10 Ref. SCICOM and ACOM	Study Group on Standards in Ichthyoplankton Surveys (SGSIPS)
SSGESST:11 Ref. SCICOM, WGISUR and ACOM	Working Group on Beam Trawl Surveys (WGBEAM)
SSGESST:12 Ref. SCICOM and ACOM.	Working Group on North-east Atlantic Continental Slope Survey (WGNEACS)
SSGESST:13 Ref. SCICOM and ACOM	Study Group on Turned 90° Codend Selectivity, focusing on Baltic Cod Selectivity (SGTCOD)



SSGESST:14 Ref. SCICOM and ACOM	Working Group on Redfish Surveys (WGRS)
SSGESST:15 Ref. SCICOM	Workshop on the identification of <i>Clupeoid</i> larvae (WKIDCLUP)
SSGESST:16 Ref. SCICOM and ACOM	Working Group on Acoustic and Egg Surveys for Sardine and Anchovy in ICES Areas VIII and IX (WGACEGG)
SSGESST:17 Ref. SCICOM, WGISUR, WGMEGS and WGWIDE	Workshop on Egg staging, Fecundity and <i>Atresia</i> in Horse mackerel and Mackerel (WKFATHOM) Two meetings (2010 C. Res.)
SSGESST:18 SCICOM	Working Group on Improving use of Survey Data for Assessment and Advice (WGISDAA) (2010 C. Res.)
SSGESST:19 Ref. SCICOM & ACOM	Study Group on <i>Nephrops</i> Surveys (SGNEPS) (2010 C. Res.)
SSGESST:20 Ref. SCICOM & ACOM	Working Group on Integrating Surveys for the Ecosystem Approach (WGISUR) (2010 C. Res.)
SSGESST:21 Ref. CICOM, WGISUR, ACOM, WGWIDE and HAWG	Working Group of International Pelagic Surveys (WGIPS) (2010 C. Res.)
SSGESST:22 Ref. SCICOM, WGISUR, ACOM, WGWIDE & HAWG	Working Group of International Pelagic Surveys (WGIPS)
SSGESST:23 Ref. WGISUR, SCICOM & ACOM	Workshop on Evaluation of current ecosystem surveys (WKECES)

**SCICOM Steering Group on Regional Sea Programmes (SSGRSP)**

SSGRSP:01 Ref. SCICOM	Working Group on the Northwest Atlantic Regional Sea (WGNARS)
SSGRSP:02 Ref. SCICOM	ICES/HELCOM Working Group on Integrated Assessments of the Baltic Sea (WGIAB)
SSGRSP:03 Ref. SCICOM	Working Group on Integrated Assessments of the North Sea (WGINOSE)
SSGRSP:04 Ref. SCICOM	Working Group on Ecosystem Assessment of Western European Shelf Seas (WGEAWESS)
SSGRSP:05 Ref. SCICOM and ACOM	Working Group on Large Marine Ecosystem Programme Best Practices (WGLMEBP)
SSGRSP:06 Ref. SCICOM and ACOM	Study Group on Integration of Economics, Stock Assessment and Fisheries Management (SGIMM)
SSGRSP:07 Ref. SCICOM and ACOM	Study Group on Spatial Analyses for the Baltic Sea (SGSPATIAL)
SSGRSP:08 Ref. SCICOM	Workshop on Benchmarking Integrated Ecosystem Assessments (WKBEMIA) (2010 C. Res)

**SCICOM Steering Group on Sustainable Use of Ecosystems (SSGSUE)**

SSGSUE:01 Ref. SCICOM	Working Group on Integrative, Physical-biological, and Ecosystem Modelling (WGIPEM)
SSGSUE:02 Ref. SCICOM and ACOM	Working Group on Fisheries-Induced Evolution (WGEVO)
SSGSUE:03 Ref. SCICOM and ACOM	Working Group on Marine Habitat Mapping (WGMHM)
SSGSUE:04 Ref. SCICOM and ACOM	Stock Identification Methods Working Group (SIMWG)
SSGSUE:05 Ref. SCICOM and ACOM	Workshop on the value of Coastal Habitats for Exploited Species (WKVHES)
SSGSUE:06 SCICOM	Working Group on Operation Oceanographic Products for Fisheries and the Environment (WGOOFE)
SSGSUE:07 Ref. SCICOM	Working Group on Maritime Systems (WGMARS)
SSGSUE:08 Ref. SCICOM and WGDIM	Study Group on VMS data, its storage, access and tools for analysis (SGVMS)
SSGSUE:09 Ref. SCICOM	Working Group on Methods of Fish Stock Assessments (WGMG)

SSGSUE:10 Ref. SCICOM	Working Group on Multispecies Assessment Methods (WGSAM)
SSGSUE:11 Ref. SCICOM	Study Group on Designing Marine Protected Area Networks in a Changing Climate (SGMPAN) (2010 C. Res.)
SSGSUE:12 Ref. SCICOM & SIBAS	Working Group on the History of Fish and Fisheries (WGHIST)
SSGSUE:1 Ref. SCICOM & ACOM	Joint ICES/COEXIST Stakeholder Workshop: Best practice guidelines for spatial planning to integrate fisheries, aquaculture and other uses in the coastal zone (WKSPFIA)

Joint ICES/PICES Session A

Understanding, measuring and projecting the limits of resilience in marine ecosystems

Conveners: Benjamin Planque (Norway), Thorsten Blenckner (Sweden), Julia Blanchard (UK), Sinjae Yoo (PICES, Korea) and Skip Mckinnell (PICES, Canada)

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A:01     **Title:** Resilience and resistance in the food webs of Europe

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**Authors:** Maciej T. Tomczak, Sheila J. J. Heymans, Thorsten Blenckner, Alberto Barausse, Andy Kenny, Georgi Daskalov, and Alison Gilbert

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**Keywords:** resilience, resistance, food-web, ecological model

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A:02     **Title:** Managing resilience of fish populations in principle and in practice: a multivariate analysis of Northeast Arctic cod

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**Authors:** Paraskevas Vasilakopoulos and C. Tara Marshall

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**Keywords:** ecosystem approach, integrated analysis, Northeast Arctic cod, resilience

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A:03     **Title:** Fishing for resilience

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**Authors:** Richard Law, Michael J. Plank, and Jeppe Kolding

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**Keywords:** balanced harvesting, size-spectrum, stability, theory

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A:04     **Title:** What determines intrinsic resilience and vulnerability of marine ecosystems to natural and anthropogenic forcing?

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**Authors:** Skip McKinnell

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**Keywords:** PICES, FUTURE, resilience, ecosystem

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A:05     **Title:** Defining reference states for ecosystems, an approach through dynamic stochastic modeling

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**Authors:** Benjamin Planque and Ulf Lindstrøm

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**Keywords:** dynamic stochastic food web model, regime shifts, tipping points

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A:06     **Title:** Ecological resilience research in practice: the experience of the Barents Sea Ecosystem Resilience project (BarEcoRe)

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**Authors:** Benjamin Planque *et al.*

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**Keywords:** ecosystem resilience, taxonomic diversity, functional diversity, food-web topology, community structure, macro-ecological models, spatial distribution models

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A:07 **Title:** Delineating marine ecosystem perturbation and recovery: Theory and application of a trophic approach

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**Authors:** J. S. Link, F. Pranovi, S. Libralato, M. Coll, V. Christensen, and C. Legault

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**Keywords:** resilience, ecosystem-based management, reference points, trophic levels, cumulative biomass, cumulative production, hockey stick

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A:08 **Title:** Climate responses in fish: temperature dependence of physiological performance, consequences for growth and population resilience

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**Authors:** Rebecca E. Holt and Christian Jørgensen

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**Keywords:** Atlantic cod, physiology, life history, climate resilience

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A:09 **Title:** Macro-Ecological Models of biodiversity metrics: How much can be explained by environmental change?

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**Authors:** Gregoire Certain, Carsten F. Dormann, and Benjamin Planque

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**Keywords:** biodiversity, resilience, demersal fauna, Barents Sea

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A:10 **Title:** How does marine community resilience change with biodiversity loss?

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**Authors:** Tak Fung, Keith D. Farnsworth, David G. Reid, and Axel G. Rossberg

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**Keywords:** biodiversity, ecological resilience, ecosystem functioning, Northeast Atlantic

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A:11 **Title:** Resilience and thresholds in the Baltic Sea ecosystem

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**Authors:** T. Blenckner, M. Llope, M. Lindegren, , C. Möllmann, M. Casini, and N. C. Stenseth

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**Keywords:** regime shifts, food-web, fishery, climate, hysteresis, resilience

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A:12 **Title:** How is resilience of fish populations affected by fishing-induced life-history changes?

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**Authors:** Katja Enberg and Christian Jørgensen

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**Keywords:** fishing-induced evolution, life-history traits, resilience, cod, *Gadus morhua*, individual-based model, spawning migration

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A:13 **Title:** Functional diversity of the Barents Sea fish community: structure and drivers

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	<p><b>Authors:</b> Magnus Aune Wiedmann, Michaela Aschan, Grégoire Certain, Andrey Dolgov, Michael Greenacre, Edda Johannesen, Benjamin Planque, and Raul Primicerio</p> <p><b>Keywords:</b> Barents Sea, functional diversity, community structure, adaptability</p>
A:14	<p><b>Title:</b> Resilience and functional redundancy: neutral model tests for ecological processes using North Sea survey data</p> <p><b>Authors:</b> Jake Rice, Niels Daan, John Pope, and Henrik Gislason</p> <p><b>Keywords:</b> functional redundancy, resilience, stability, neutral model, Ecological process</p>
A:15	<p><b>Title:</b> Using rarefaction and species turnover analysis to detect marine fish species resilience</p> <p><b>Authors:</b> Jamie M. Cournane, Christopher Glass, and Andrew A. Rosenberg</p> <p><b>Keywords:</b> New England, resilience, biodiversity, marine protected areas</p>
A:16	<p><b>Title:</b> Future climate projections provide insight into how the interaction of multiple drivers may affect the Baltic Sea food-web resilience</p> <p><b>Authors:</b> S. Niiranen, T. Blenckner, O. Hjerne, M. T. Tomczak, and J. Yletyinen</p> <p><b>Keywords:</b> Baltic Sea, ecosystem resilience, food-web, climate change</p>
A:17	<b>Title: Withdrawn</b>
A:18	<b>Title: Withdrawn</b>
A:19	<p><b>Title:</b> A dynamic stochastic food web model for the Barents Sea ecosystem</p> <p><b>Authors:</b> Ulf Lindstrøm, Benjamin Planque, and Samuel Subbey</p> <p><b>Keywords:</b> dynamic, stochastic, food web, model, Barents Sea, ecosystem</p>
A:20	<p><b>Title:</b> Ecological resilience for ecologists</p> <p><b>Authors:</b> Benjamin Planque <i>et al.</i></p> <p><b>Keywords:</b> resilience, quantitative ecology, trans-disciplinary research, ecosystem structure, ecosystem dynamics</p>
A:21	<b>Withdrawn</b>
Poster	
A:22	<p><b>Title:</b> Impact of fish communities types on ecosystem resilience</p> <p><b>Authors:</b> Andrey V. Dolgov</p>
Poster	

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**Keywords:** fish communities, resilience, ecosystems, Barents Sea, North Atlantic

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A:23 **Title:** Food web topologies of the Barents Sea

Poster

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**Authors:** Susanne Kortsch *et al.*

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**Keywords:** trophic interactions, climate change, vulnerability, resilience, Barents Sea

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A:24 **Title:** The Barents Sea fish community development during a decade of warming

Poster

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**Authors:** M. Fossheim, R. Primicerio, E. Johannesen, M. Aschan, and A. Dolgov

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**Keywords:** Barents Sea, climate warming, temporal change, uncommercial fish species

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A:25 **Title:** Identifying thresholds of resilience within the benthos of the Barents Sea ecosystem?

Poster

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**Authors:** L. L. Jørgensen, G. Certain, E. Johannesen, P. Lubin, B. Planque, R. Primicerio, T. Thangstad, and M. Wiedemann

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**Keywords:** Barents Sea, Benthos, thresholds, resilience

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A:26 **Title:** Operationalizing ecological robustness and resilience for ecosystem based management

Poster

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**Authors:** Raul Primicerio *et al.*

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**Keywords:** resilience, functional diversity, functional redundancy, food-web compartmentalization, Barents Sea

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Theme Session B

The contribution of acoustics-derived indices for ecosystem-based fisheries management: technological and analytical challenges and recent advances

Conveners: Mark Dickey-Collas (The Netherlands), Nils Olav Handegard (Norway), and Verena Trenkel (France)

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B:01	<p><b>Title:</b> Patchwork of the spatial distribution of small pelagics off Northwest Africa with non-linear geostatistics</p> <hr/> <p><b>Authors:</b> Cheikh Baye Isselmou and Nicolas Bez</p> <hr/> <p><b>Keywords:</b> small palagic, abundance index, spatial distribution, non-linear geostatistic, Northwest Africa</p>
B:02	<p><b>Title:</b> Combining bottom trawl and acoustic data to quantify expected biases in abundance estimates from bottom trawl and acoustic surveys.</p> <hr/> <p><b>Authors:</b> Stan Kotwicki, Alex De Robertis, Jim Ianelli, André E. Punt, and John Horne</p> <hr/> <p><b>Keywords:</b> acoustic-trawl survey, bottom trawl survey, acoustic dead zone, bottom trawl blind zone, effective fishing height, catchability</p>
B:03	<p><b>Title:</b> High resolution acoustic indices of Atlantic herring (<i>Clupea harengus</i>) paving the way for inclusion of migration patterns in management considerations of herring in ICES divisions IIIa and sd 22–24</p> <hr/> <p><b>Authors:</b> Karl-Johan Stæhr and Lotte Worsøe Clausen</p> <hr/> <p><b>Keywords:</b> acoustic monitoring, herring migration, stock separation, Skagerrak</p>
B:04	<p><b>Title:</b> Determining herring habitat quality from acoustically derived zooplankton abundance in the Northern North Sea</p> <hr/> <p><b>Authors:</b> Sascha M. M. Fässler, Lorna R. Teal, Susan M. Lusseau, and Piet Ruardij</p> <hr/> <p><b>Keywords:</b> North Sea, herring, dynamic energy budget, ecophysiology, habitat quality, ERSEM</p>
B:05	<p><b>Title:</b> Going pelagic: How abiotic conditions force demersal Baltic cod into open water, and how this affects assessment</p> <hr/> <p><b>Authors:</b> Matthias Schaber, Hans-Harald Hinrichsen, and Joachim Gröger</p> <hr/> <p><b>Keywords:</b> seasonal distribution patterns, hydroacoustic single-fish detection, environmental habitat thresholds, Bornholm Basin</p>

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- 
- B:06     **Title:** Acoustic assessment of the effect of anchovy on bluefin tuna school structure: implications for acoustic estimation of tuna abundance and of predation of anchovy
- 
- Authors:** Nicolas Goñi, Igor Arregui, Guillermo Boyra, Iñigo Onandia and Haritz Arrizabalaga
- 
- Keywords:** acoustics, bluefin tuna, Bay of Biscay, feeding behaviour
- 
- B:07     **Title:** Phytoplankton abundance and productivity impacts the distribution of herring in the North Sea
- 
- Authors:** Sven Gastauer, Mark Dickey-Collas, Narangerel Davaasuren, Niels Hintzen, Thomas Brunel, and Sascha Fässler
- 
- Keywords:** North Sea, herring, plankton, acoustics
- 
- B:08     **Title:** Mesoscale eddies stimulate higher trophic level marine life – acoustically recorded density distribution creates understanding of the impact of physical forcing
- 
- Authors:** Olav Rune Godø, Gavin Macaulay, Annette Samuelsen, Solfrid Sætre Hjøllo, and Johnny Johannessen
- 
- Keywords:** Acoustics, satellite imaging, mesoscale eddies, physical-biological coupling, biomass distribution pattern
- 
- B:09     **Title: Withdrawn**
- 
- B:10     **Title:** Assessing mackerel abundance indices extracted from opportunistically recorded acoustic data onboard a bottom trawl survey
- 
- Authors:** Jeroen van der Kooij, Sven Gastauer, Sascha M.M. Fässler, Beatriz O. Roel, and David Righton
- 
- Keywords:** North Sea, mackerel, feeding, fisheries acoustics, opportunistic
- 
- B:11     **Title:** Acoustic mapping of deep water coral
- 
- Authors:** B. Ramiro Sanchez, F. McIntyre, F. Neat, and P. G. Fernandes
- 
- Keywords:** coral, acoustic, single split-beam echosounder
- 
- B:12     **Title:** Acoustic data from fishing vessels: what indicators can be obtained that research vessels cannot provide?
- 
- Authors:** François Gerlotto, Mariano Gutierrez , Erwan Josse, Anibal Aliaga , Jeremie Habasque, and Arnaud Bertrand
- 
- Keywords:** fisheries acoustics, jack mackerel, fishing vessels, South Pacific Ocean
- 
- B:13     **Title:** Assess spatial indicators from single species acoustics estimates for ecosystem based management: Some possibilities from the Eastern Mediterranean Sea
-

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	<b>Authors:</b> M. Giannoulaki, A. Machias, P. Petitgas, M.M. Pirounaki, K. Tsagarakis, and M. Woillez
	<b>Keywords:</b> acoustics, spatial indicators, anchovy, sardine
B:14	<b>Title:</b> Extraction of zooplankton echoes in mixed aggregations
	<b>Authors:</b> Rolf J. Korneliussen, Egil Ona, and Hector Pena
	<b>Keywords:</b> acoustics, zooplankton, mixed aggregations
B:15	<b>Title:</b> <b>Withdrawn</b>
B:16 Poster	<b>Title:</b> Oceanographic and physiological conditioning of the hydroacoustic survey results in the Canary upwelling region
	<b>Authors:</b> A. Sorokin, N. Barkova, N. Timoshenko, and G. Chernega
	<b>Keywords:</b> biomass, indices, availability for the survey, upwelling region, habitat conditions
B:17 Poster	<b>Withdrawn</b>
B:18 Poster	<b>Withdrawn</b>
B:19 Poster	<b>Title:</b> Density dependence in spatial behaviour of anchovy and sardine across Mediterranean systems
	<b>Authors:</b> M. Giannoulaki <i>et al.</i>
	<b>Keywords:</b> spreading area index, anchovy, sardine, Mediterranean Sea
B:20 Paper	<b>Title:</b> An acoustic survey designed to fit a new Area Based Sandeel Management
	<b>Authors:</b> Espen Johnsen, Tore Johannessen, Alf Harbitz, Egil Ona
	<b>Keywords:</b> Acoustic, Management model, North Sea, Sandeel

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Theme Session C

Bycatch and discards: from improved knowledge to mitigation programmes

Conveners: Tom Catchpole (UK), Steve Cadrin (USA), and Marie-Joëlle Rochet (France)

ICES CM 2012/ code	
C:01	<p><b>Title:</b> The effects of quota increases on discarding of common megrim <i>Lepidorhombus whiffiagonis</i> in the northern North Sea</p> <hr/> <p><b>Authors:</b> P. Macdonald, C. H. Angus, and C. T. Marshall</p> <hr/> <p><b>Keywords:</b> Common megrim, <i>Lepidorhombus whiffiagonis</i>, discards, quota, high grading, North Sea</p>
C:02	<p><b>Title:</b> The impact of gear regulation changes on discard rates: The case of the Baltic Sea cod fishery</p> <hr/> <p><b>Authors:</b> Jordan Feekings, Niels Madsen, and Peter Lewy</p> <hr/> <p><b>Keywords:</b> discards, demersal trawl, cod, Baltic Sea, selectivity, MLS</p>
C:03	<p><b>Title:</b> Estimating discard mortality of flatfishes using reflex impairment predictors</p> <hr/> <p><b>Authors:</b> Adam Barkley and Steve Cadrin</p> <hr/> <p><b>Keywords:</b> bycatch, discard mortality rate, North Atlantic</p>
C:04	<p><b>Title:</b> Mixed fisheries management: Protecting the weakest link</p> <hr/> <p><b>Authors:</b> J. Batsleer J. J. Poos, P. Marchal, Y. Vermard, and A. D. Rijnsdorp</p> <hr/> <p><b>Keywords:</b> discard ban, Eastern English Channel, dynamic state variable modelling, effort allocation</p>
C:05	<p><b>Title:</b> The impact of catch quotas on a European fishing fleet; will they work?</p> <hr/> <p><b>Authors:</b> H. M. Condie, A. Grant, and T. L. Catchpole</p> <hr/> <p><b>Keywords:</b> catch quotas, economic impact, fishing mortality, North Sea otter trawlers</p>
C:06	<p><b>Title:</b> Socio-economic and institutional incentives influencing fishers behaviour in relation to fishing practices and discard</p> <hr/> <p><b>Authors:</b> Søren Q. Eliassen, Nadia Papadopoulou, Vassiliki Vassilopoulou, and Tom Catchpole</p>

- 
- Keywords:** driver for discard; institutional and socio-economic incentives; case study comparison.
- 
- C:07    **Title:** UK cross-industry Discard Action Group (DAG) champions joined-up approach to tackling discards
- 
- Authors:** Mike Park
- 
- Keywords:** UK, DAG, Seafish
- 
- C:08    **Title:** Characterizing the pressures and impacts of fisheries selectivity on marine communities by combining survey and commercial fisheries data
- 
- Authors:** Laurence Fauconnet, Marie-Joëlle Rochet, and Verena Trenkel
- 
- Keywords:** marine communities; onboard observer programmes; selectivity indicators; Bay of Biscay
- 
- C:09    **Title:** Marine recreational fisheries in Europe – does only harvest matter?
- 
- Authors:** Keno Ferter, Marc Simon Weltersbach, Jon Helge Vølstad, and Harry Vincent Strehlow
- 
- Keywords:** European recreational fisheries, catch-and-release, post-release mortality, fishing mortality
- 
- C:10    **Title:** Estimated bycatch of harbour porpoise (*Phocoena phocoena*) in two coastal gillnet fisheries in Norway, 2006–2008. Mitigation and implications for conservation.
- 
- Authors:** Arne Bjørge and Mette Skern-Mauritzen
- 
- Keywords:** harbour porpoise, bycatch, mitigation
- 
- C:11    **Title:** Inferring the drivers of discarding practices from observer data to identify appropriate fishery specific solutions
- 
- Authors:** Tom Catchpole, Marie-Joëlle Rochet, Niels Madsen, Natacha Nikolic, Andreas Palialexis, Teresa García, and Vassiliki Vassilopoulou
- 
- Keywords:** discards, observer, minimum landing size, quota, CFP
- 
- C:12    **Title:** A mitigation program for reducing mortality caused by slipping in purse seine fisheries
- 
- Authors:** Bjørnar Isaksen, Jostein Saltskår, Bjørn Totland, Aud Vold, Jan Tore Øvredal, and Mike Breen
- 
- Keywords:** North Atlantic, purse seine, mitigation, mortality

- 
- C:13     **Title:** Double Dutch: implications of using both observer- and self-sampling techniques to quantify discards in The Netherlands
- 
- Authors:** Sebastian S. Uhlmann, Aloysius T. M. van Helmond, Ronald A. Bol, and Rosemarie R. Nijman
- 
- Keywords:** participatory research; collaboration; sustainable resource management; North Sea; demersal fisheries
- 
- C:14     **Title:** Consequences of change in selectivity versus the establishment Marine Protected Areas on the hake-Nephrops fishery in the Bay of Biscay
- 
- Authors:** S. Méhault, S. Mahévas, and M. Bertignac
- 
- Keywords:** trawl selectivity, *Nephrops norvegicus*, *Merluccius merluccius*, technical measures, fleet dynamic, marine protected areas.
- 
- C:15     **Title:** Bycatch reduction devices: development, adoption and implementation?
- 
- Authors:** Christopher W. Glass, Stephen Eayrs, Pingguo He, and Jamie M. Cournane
- 
- Keywords:** Bycatch reduction, Discard, Northeast USA
- 
- C:16     **Title: Withdrawn**
- 
- C:17     **Title:** Evaluating success of bycatch mitigation measures
- 
- Authors:** Catherine E. O'Keefe, Steven X. Cadrin, and Kevin D. E. Stokesbury
- 
- Keywords:** bycatch mitigation, fishing fleet behavior, incentive programs
- 
- C:18     **Title:** Ecosystem based management and the discard ban: reforming the Common Fisheries Policy
- 
- Authors:** Richard Curtin and Raúl Prellezo
- 
- Keywords:** discard ban; ecosystem based management; incentives; Europe;
- 
- C:19     **Withdrawn**
- 
- C:20     **Title:** Can groundgear modifications minimize bycatch of flatfish in the New England trawl fishery?
- 
- Poster           **Authors:** Sally Roman, Steve Cadrin, and Pingguo He
- 
- Keywords:** bycatch, technical mitigation measure, discards
- 
- C:21     **Title:** Quantifying and reducing river herring bycatch in the US northwest pelagic trawl fisheries
- 
- Poster

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**Authors:** N. David Bethoney, Bradley Schondelmeier, Kevin Stokesbury, and William Hoffman

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**Keywords:** bycatch, Northwest-Atlantic, collaborative research

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C:22 **Title:** Precision in estimates of marine species bycatch: The case of tuna purse  
Poster seine fisheries of the Indian Ocean

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**Authors:** Monin Justin Amandè, Emmanuel Chassot, Pierre Chavance, Hilario Murua, Alicia Delgado de Molina, Martin Hall, and Nicolas Bez

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**Keywords:** bycatch, fishery observer program, precision, purse-seine, tropical tuna.

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C:23 **Title:** Spatial and temporal variability of discard indicators and fishery factors  
Poster affecting otter-trawl fishery in the Spanish Mediterranean Sea

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**Authors:** A. Carbonell *et al.*

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C:24 **Title:** Evaluation of the impact of pulse fishery on a selection of North Sea fish  
Poster and invertebrates.

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**Authors:** Marieke Desender, Maarten Soetaert, Bart Verschueren, Hans Polet, Koen Chiers, and Annemie Decostere

---

**Keywords:** electrofishing, North Sea, Spinal injury, Lesions

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C:25 **Title:** Pressure indicators describing by-catch and discards in selected Spanish  
Poster fisheries

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**Authors:** M. Mendoza, J. Valeiras, T. Garcia, N. Pérez, S. Mallol, A. Carbonell, R. Goñi, and José M. Bellido

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**Keywords:** discard, bycatch, indicators, traw fishery.

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C:26 **Title:** Review of existing knowledge on fishery discards in the Mediterranean  
Poster Sea.

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**Authors:** K. Tsagarakis, A. Palialexis, and V. Vassilopoulou

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**Keywords:** Mediterranean Sea, discards, by-catch, observers programmes

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C:27 **Title:** Potential role of blue whiting exploitation patterns in the success of  
Poster improving hake selectivity in Spanish Atlantic coastal OTB mixed fisheries

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**Authors:** Juan Santos, Itxaso Salinas, Francisco Velasco, and Nélida Pérez

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**Keywords:** discards, selectivity, hake, blue whiting, OTB-mixed

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C:28 **Withdrawn**

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- C:29     **Title:** A new method for estimating net volume during purse seine fishing –  
Poster    towards improved guidelines for slipping operations
- 
- Authors:** Maria Tenningen and Héctor Peña
- 
- Keywords:** fishery sonar, HiPAP, Northeast Atlantic, purse seine
- 
- C:30     **Title:** Comparison of fishing-induced stress response and post-release  
Poster    mortality between sandbar (*Carcharhinus plumbeus*) and dusky (*Carcharhinus*  
          *obscurus*) sharks (*Family Carcharhinidae*)
- 
- Authors:** H. Marshall, R. Brill, P. Bushnell, G. Skomal, and D. Bernal
- 
- Keywords:** elasmobranch, survival, physiology, fishery
- 
- C:31     **Title:** A wasted resource: Cod discards in the North Sea  
Poster
- 
- Authors:** Jordan Feekings *et al.*
- 
- Keywords:** North Sea, cod, discards, spatial distribution
- 
- C:32     **Withdrawn**  
Poster
- 
- C:33     **Title:** Gear Solutions to Minimize Discards in the Gulf of Maine Shrimp  
          Trawls: A Decade of Research to Reduce Finfish Bycatch and Small Shrimps
- 
- Authors:** Pingguo He
- 
- Keywords:** trawl, northern shrimp, discard, USA
- 
- C:34     **Title:** Magnitude and causes of mortality of Atlantic herring (*Clupea harengus*)  
          induced by crowding in purse seines
- 
- Authors:** Aud Vold, Bjørnar Isaksen, Ragnhild Svalheim, Maria Tenningen,  
          Rolf-Erik Olsen, and Mike Breen
- 
- Keywords:** Norwegian Sea, mortality, purse seine, herring
-

Joint ICES/AOSB Theme Session D  
The role of the Arctic and Sub-Arctic in a climate change perspective  
Conveners: Harald Loeng (Norway) and Bogi Hansen (Faroe Islands)

ICES CM 2012/ code	
D:01	<p><b>Title:</b> The long-term variation of Global and Arctic Temperatures. Are they predictable?</p> <hr/> <p><b>Authors:</b> L. B. Klyashtorin and V. M. Borisov</p> <hr/> <p><b>Keywords:</b> Arctic, climate, temperature anomalies, fish populations</p>
D:02	<p><b>Title:</b> The role of the Barents Sea in the climate system</p> <hr/> <p><b>Authors:</b> R. B. Ingvaldsen <i>et al.</i></p> <hr/> <p><b>Keywords:</b> climate variability, Barents Sea, Arctic, feedback cycles</p>
D:03	<p><b>Title:</b> Variability, forcing and fate of the inflow of Atlantic Water to the north Icelandic shelf</p> <hr/> <p><b>Authors:</b> Steingrímur Jónsson and Héðinn Valdimarsson</p> <hr/> <p><b>Keywords:</b> Iceland, Atlantic Water, North Icelandic Irminger Current, circulation</p>
D:04	<p><b>Title:</b> Submarine Estimates of Arctic Turbulence Spectra – SEATS</p> <hr/> <p><b>Authors:</b> Charlotte Marcinko, John Allen, Adrian Martin, Garry Dawson, Tim Clarke, and Yvonne Mather</p> <hr/> <p><b>Keywords:</b> Arctic, turbulence, spectra</p>
D:05	<p><b>Title:</b> A mechanism for fluctuations between Atlantic inflow branches to the Arctic</p> <hr/> <p><b>Authors:</b> Vidar S. Lien, Frode B. Vikebø, and Øystein Skagseth</p> <hr/> <p><b>Keywords:</b> Atlantic inflow; Barents Sea; Arctic</p>
D:06	<p><b>Title:</b> Changes in the properties and distribution of the intermediate and deep waters in the Fram Strait</p> <hr/> <p><b>Authors:</b> Helene R. Langehaug and Eva Falck</p>



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**Keywords:** Fram Strait, intermediate and deep water masses, interannual variability

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D:07 **Title:** Topographically Controlled Flow on the West Spitsbergen Shelf with special emphasis on the Atlantic Water transport towards Isfjorden

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**Authors:** Frank Nilsen, Juni Vaardal-Lunde, and Ragnheid Skogseth

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**Keywords:** Arctic Shelf, Atlantic Water intrusion, barotropic circulation model, heat transport

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D:08 **Title:** Downscaling IPCC models using the Regional Ocean Modeling system (ROMS) with focus on the Barents Sea

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**Authors:** Anne Britt Sandø, Arne Melsom, and William Paul Budgell

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**Keywords:** downscaling, ROMS, Barents Sea, future, ocean stratification

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D:09 **Title:** Heat and freshwater content in the Nordic Seas, 1950–2000

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**Authors:** Kjell Arne Mork, Victor Ivshin, Vladimir Ozhigin, and Øystein Skagseth

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**Keywords:** Nordic Seas, advection, climate, heat flux

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D:10 **Title:** Sources and propagation of anomalous freshwater content in the Nordic Seas

---

**Authors:** Mirjam S. Glessmer, Tor Eldevik, Jan E. Ø. Nilsen, and Kjetil Våge

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**Keywords:** Nordic Seas, freshwater content

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D:11 **Title:** Time to revise the role of the Faroe-Shetland Channel in the heat transport between the Atlantic and Nordic Seas after 16 years of observations?

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**Authors:** B. Berx, B. Hansen, K. M. Larsen, S. Østerhus, T. Sherwin, and S. M. Olsen

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**Keywords:** heat transport, recirculation, North-East Atlantic

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D:12 **Title:** Propagating hydrographic anomalies in the Norwegian Atlantic Current

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**Authors:** Øystein Skagseth, Tor Eldevik, and Kjell Arne Mork

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**Keywords:** inter-annual variability, Atlantic water, anomalies, propagation

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D:13 **Title:** Seasonal and inter-annual variability of the slope current and its possible impact on the Barents sea opening

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**Authors:** Léon Chafik, Øystein Skagseth, and Johan Nilsson

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**Keywords:** slope current variability, satellite altimetry, climate change

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- D:14 **Title:** Quantifying the influence of Atlantic heat on Barents Sea ice variability and retreat
- 
- Authors:** Marius Årthun, Tor Eldevik, Lars H. Smedsrud, Øystein Skagseth, and Randi Ingvaldsen
- 
- Keywords:** Barents Sea, Arctic sea ice retreat, ocean heat transport, observations, general circulation model
- 
- D:15 **Title:** Imprint of the North Atlantic climate on the long term changes of Gulf of Mexico hydroclimate
- 
- Authors:** A. Roldán-Heredia, J. C. Molinero, M. Marín-Hernández, and C. Meiners
- 
- Keywords:** time series, climate variability, North Atlantic Oscillation (NAO), Arctic oscillation (AO), Gulf of México (GoM)
- 
- D:16 **Title:** Is the oceanic heat transport with Atlantic water towards the Arctic changing?
- 
- Authors:** B. Berx, B. Hansen, S. Jónsson, S. M. Olsen, S. Østerhus, T. Sherwin, and H. Valdimarsson
- 
- Keywords:** Currents, Atlantic Ocean, Arctic, heat transport
- 
- D:17 **Title:** Changes in temperature and salinity in the eastern Eurasian Basin and its implication for the Arctic Ocean heat and freshwater balance
- 
- Authors:** Bert Rudels, Meri Korhonen, Ursula Schauer, Sergey Pisarev, Benjamin Rabe, and Andreas Wisotzki
- 
- Keywords:** Arctic Ocean, freshwater balance, heat transport, mixing
-

Theme Session E

Bridging the distance – Understanding habitat (and life stage) connectivity

Conveners: Marc Hufnagl (Germany), Geneviève Lacroix (Belgium), and Filip Volckaert (Belgium)

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E:01     **Title:** Assessing replication requirements for a MPA network using a basic model of connectivity

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**Authors:** Alejandro Gallego, Fiona M. Gibb, Peter J. Wright, and Morten D. Skogen

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**Keywords:** connectivity, MPA, bio-physical model, northeast Atlantic

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E:02     **Title: Withdrawn**

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E:03     **Title: Withdrawn**

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E:04     **Title:** Genetic relationships between North Atlantic populations of *Pseudocalanus moultoni*, *P. elongatus* and *P. minutus*

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**Authors:** Ole Nicolai Staurland Aarbakke, Ann Bucklin, and Fredrika Norrbin

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**Keywords:** copepods, bioindicator, barcoding, phylogeography

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E:05     **Title:** Importation of baitworms and their live algal packing materials to the Mid-Atlantic: vector characterization and management

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**Authors:** Amy Fowler *et al.*

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**Keywords:** live bait, introduced species, Mid-Atlantic (USA)

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E:06     **Title:** Reconstructing a recent, climate-assisted colonization of an oceanic archipelago by a coastal fish

---

**Authors:** S. Mariani, S. Stefanni, M. Sala-Bozano, J. Robalo, S. M. Francisco, R. S. Santos, R. Castilho, N. Marques, A. Brito, and V. C. Almada

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**Keywords:** dispersal, genetic drift, islands, Mediterranean-Atlantic boundary, nuclear DNA, mitochondrial DNA

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E:07     **Withdrawn**

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E:08     **Title:** Multivariate analysis of features and patterns across estuarine, coastal, and oceanic ecosystems in the northeast US

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**Authors:** Robert J. Gamble *et al.*

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**Keywords:** ecosystem based fisheries management, connectivity, synchronicity, multivariate, northeast US, northwest Atlantic, estuaries, coastal, oceanic, ecosystems

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E:09 **Title:** Genetic connectivity between Moroccan stocks of *Mytilus galloprovincialis* populations across Gibraltar strait

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**Authors:** Yassine Ouagajjou and Pablo Presa

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**Keywords:** *Mytilus galloprovincialis*, genetic connectivity, gene flow, Gibraltar strait, microsatellites

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E:10 **Title:** Influence of climate on connectivity and recruitment in the Pacific oyster: a case study in the Charentais sounds (Charente Maritime, France).

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**Authors:** I. Bernard, F. Dumas, O. Le Moine, M. Plus, S. Pouvreau, D. Mille, and P. Boudry

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**Keywords:** recruitment, potential larval connectivity, *Crassostrea gigas*, Charentais sounds

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E:11 **Title:** Modelled larval dispersal and measured gene flow: seascape genetics of the common cockle *Cerastoderma edule*

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**Authors:** Ilaria Coscia, Peter E. Robins, Joanne S. Porter, Shelagh K. Malham, and Joseph E. Ironside

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**Keywords:** Particle tracking model, larval dispersal, common cockle, *Cerastoderma edule*, North-East Atlantic

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E:12 **Title:** Putting turbot on the map: environmental determinants, philopatry and high dispersal potential shed new light on population structure

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**Authors:** Sara G. Vandamme, Gregory E. Maes, Els Torreele, Johan Robbens, and Filip A. M. Volckaert

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**Keywords:** turbot, Northeast Atlantic Ocean, population structure, seascape genetics

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E:13 **Title:** Addressing the variability of drift models: The North Sea Intermodel Comparison Project

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**Authors:** Loes Bolle *et al.*

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**Keywords:** drift models, ocean circulation models, variability, uncertainty

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E:14 **Title:** Connectivity patterns of anchovy larvae in the Bay of Biscay from a coupled transport-bioenergetic model forced by size-structured zooplankton.

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**Authors:** M. Huret, P. Vandromme, P. Petitgas, and L. Pecquerie

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	<b>Keywords:</b> connectivity, Larval IBM, bioenergetics, zooplankton, Bay of Biscay, European anchovy
E:15	<b>Title:</b> Connectivity of early life stages: are the connections between spawning grounds and nurseries of sole recurrent or exceptional? A modelling study
	<b>Authors:</b> G. Lacroix, G. E. Maes, L. J. Bolle, and F. A. M. Volckaert
	<b>Keywords:</b> larval dispersal, particle tracking model, Solea solea, North Sea
E:16	<b>Title:</b> Autumn distribution of Western Baltic spring spawning herring ( <i>Clupea harengus</i> ): annual variability in southward spawning migration into the Arkona Sea (ICES subdivision 24)
	<b>Authors:</b> Tanja Miethe, Tomas Gröhsler, Uwe Böttcher, and Christian von Dorrien
	<b>Keywords:</b> herring, hydroacoustic survey, spawning migration, Western Baltic Sea
E:17 Poster	<b>Title:</b> How is the connectivity of sole larvae affected by wind and temperature changes in the Southern North Sea? A modelling approach
	<b>Authors:</b> G. Lacroix, G. E. Maes G.E., L. J. Bolle, and F. A. M. Volckaert
	<b>Keywords:</b> none
E:18 Poster	<b>Title:</b> Towards an integrated forecasting system for pelagic fisheries
	<b>Authors:</b> Asbjørn Christensen, Momme Butenschön, Zeren Gurkan, and Icarus Allen
	<b>Keywords:</b> spatial population dynamics; Coupled model system; Lesser Sandeel; the North Sea
E:19 Poster	<b>Title:</b> How can genetic analysis of connectivity contribute to sustainable management?
	<b>Authors:</b> Ann Bucklin, Leocadio Blanco-Bercial, Nancy J. Copley, and Peter H. Wiebe
	<b>Keywords:</b> connectivity, DNA barcodes, zooplankton
E:20 Poster	<b>Title:</b> Effect and effectiveness of marine protected areas on the spatial and temporal distribution of yellowtail flounder ( <i>Limanda ferrugineus</i> ) on Georges Bank
	<b>Authors:</b> Rosellon-Druker Judith and Saang-Yoon Hyun
	<b>Keywords:</b> Georges-Bank, yellowtail, MPA, relative biomass

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- E:21     **Title:** Variability of European cel population abundance with special reference  
Poster   to the Earth's rotation regime
- 
- Authors:** G. A. Chernega, Yu. A. Vyalov, and I. Ye
- 
- Keywords:** rotation of Earth, zonal and meridional circulation, North Atlantic,  
                  European ell
- 
- E:22     **Title:** Elasmobranch occurrence in a coral and non-coral area in the deep  
Poster   waters of E. Ionian Sea and aspects on their life cycle related to each habitat
- 
- Authors:** Ch. Mytilineou, A. Anastasopoulou, S. Kavadas, K. Dogramatzi, and  
                  C. J. Smith
- 
- Keywords:** elasmobranchs, deep waters, coral habitat, *Squalus blainville*, *Squalus*  
                  *acanthias*, *Galeus melastomus*, *Etmopterus spinax*, *Raja oxyrinchus*, *Raja clavata*
- 
- E:23     **Title:** Occurrence of European anchovy and European sardine in the Strait of  
Poster   Sicily (Central Mediterranean Sea) for the identification of essential fish habitat
- 
- Authors:** Bernardo Patti, Marta D'Elia, Enza Quinci, Angelo Bonanno,  
                  Gualtiero Basilone, and Salvatore Mazzola
- 
- Keywords:** generalized Additive Models, small pelagic fish, environmental  
                  factors, Strait of Sicily
- 
- E:24     **Title:** Genetic connectivity of the octocorals *Eunicella verrucosa* and *Alcyonium*  
Poster   *digitatum* and its implications for protection of sessile species in European  
                  MPA networks
- 
- Authors:** Lyndsey P. Holland and Jamie R. Stevens
- 
- Keywords:** NE Atlantic, octocoral, gene flow
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Theme Session F  
Consequences of improved survey performance on assessments  
and management advice? Do innovations in survey and sampling  
design, and technology make any difference?  
**Conveners: Olav Rune Godø (Norway), William Karp (USA), and**  
**Nicolas Bez (France)**

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ICES CM 2012/ code	
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F:01	<p><b>Title:</b> Impact of survey design changes on stock assessment advice: Sea scallops</p> <hr/> <p><b>Authors:</b> Stephen J. Smith and P. Brad Hubley</p> <hr/> <p><b>Keywords:</b> design-base surveys; design efficiency; benthic surveys; Bayesian models</p>
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F:02	<p><b>Title:</b> A parsimonious estimator of abundance based on scientific surveys</p> <hr/> <p><b>Authors:</b> Michael Pennington</p> <hr/> <p><b>Keywords:</b> scientific surveys, survey calibration, Northeast Arctic cod, Barents Sea.</p>
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F:03	<p><b>Title:</b> Forming collaborative partnerships to improve fisheries research surveys</p> <hr/> <p><b>Authors:</b> Greg DeCelles, Sally Roman, Adam Barkley, and Steve Cadrin</p> <hr/> <p><b>Keywords:</b> surveys, collaboration, sampling design, stock assessment</p>
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F:04	<p><b>Title:</b> Improving survey derived indices of abundance by combining bottom trawl and acoustic data.</p> <hr/> <p><b>Authors:</b> Stan Kotwicki, Patrick H. Ressler, James N. Ianelli, André E. Punt and John K. Horne</p> <hr/> <p><b>Keywords:</b> acoustic-trawl survey, bottom trawl survey, abundance indices, combining bottom trawl and acoustics</p>
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F:05	<p><b>Title:</b> Evaluating how precision in estimates of abundance indices by age from a fisheries-independent trawl survey affects the assessment of Northeast Arctic Cod</p> <hr/> <p><b>Authors:</b> Subbey Sam, Sondre Aanes, and Jon Helge Vølstad</p>
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	<p><b>Keywords:</b> survey, effort, effective sample size, catch-at-age, catch errors, reference points</p>
F:06	<p><b>Title:</b> Long term survey strategy for deep-sea fish species in Norwegian waters - evaluation criteria and implications for survey outputs to advisory work</p> <p><b>Authors:</b> Alf Harbitz, Elvar Halldor Hallfredsson, Benjamin Planque, and Ole Thomas Albert</p> <p><b>Keywords:</b> survey design, deep-sea fish, multi species approach, multi annual surveys</p>
F:07	<p><b>Title:</b> The application of new acoustic observations and techniques to stock assessment of walleye pollock in the eastern Bering Sea</p> <p><b>Authors:</b> P. H. Ressler, J. N. Ianelli, T. Honkalehto, C. D. Wilson, A. De Robertis, and Stan Kotwicki</p> <p><b>Keywords:</b> walleye pollock, euphausiids, acoustic survey, stock assessment, ecosystem approach to fisheries management, Bering Sea</p>
F:08	<p><b>Title:</b> Influence of survey improvements on assessments of fish stocks in the US</p> <p><b>Authors:</b> Richard D. Methot Jr. (and possible co-authors)</p> <p><b>Keywords:</b> stock assessment, fish surveys, technology, calibration</p>
F:09	<p><b>Title:</b> DeepVision: Improving surveys through identification and measurement of fish inside a trawl</p> <p><b>Authors:</b> Shale Rosen and Darren Hammersland-White</p> <p><b>Keywords:</b> trawl surveys, image analysis, stereo camera</p>
F:10	<p><b>Title:</b> Improved methods for mapping distribution and abundance of pelagic fish schools with omni-directional fisheries sonar</p> <p><b>Authors:</b> Héctor Peña and Egil Ona</p> <p><b>Keywords:</b> sonar, echo sounder, schools, pelagic fish and fish migration</p>
F:11	<p><b>Title:</b> Enhancing survey coverage with no net increase in survey effort</p> <p><b>Authors:</b> Matthias Kloppmann, Finlay Burns, Cindiy van Damme, and Jens Ulleweit</p> <p><b>Keywords:</b> mackerel egg survey, survey design, AEPM</p>
F:12	<p><b>Title:</b> Innovations in survey and sampling design in the Chilean Crustacean Swept Area Assessments</p>

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	<b>Authors:</b> E. Acuña, R. Alarcón, L. Cid, and A. Cortés
	<b>Keywords:</b> squat lobsters, deepsea shrimp, trawl research surveys, Chile
F:13	<b>Title:</b> A comparison of scallop length distributions obtained from AUV and dredge surveys
	<b>Authors:</b> Warsha Singh, Erla B. Ornlófsdóttir, and Gunnar Stefansson
	<b>Keywords:</b> AUV, Iceland scallops, length-distribution, dredge
F:14	<b>Withdrawn</b>
F:15	<b>Title:</b> Generating a biological adequate single species hake assessment in Namibia from survey data information
	<b>Authors:</b> Espen Johnsen and Johannes Kathena
	<b>Keywords:</b> assessment, hakes, Namibia, species separation
F:16	<b>Title:</b> Investigation of uncertainty in the Baltic acoustic survey results for management application
	<b>Authors:</b> S. Kasatkina and P. Gasyukov
	<b>Keywords:</b> acoustic survey, Baltic Sea, herring and sprat, target strength, trawl differential catchability, uncertainty in abundance indices
F:17	<b>Withdrawn</b>
	Poster
F:18	<b>Title:</b> Can we improve stock assessments by using dynamic habitat models and fishery-dependent surveys as a supplement to current fishery-independent surveys?
	<b>Authors:</b> J. Kohut, J. Manderson, J. Hoey, C. Roebuck, L. Palamara, M.J. Oliver, S. Gray, G. DiDomenico, O. Jensen, and E. Bohchenek
	<b>Keywords:</b> Middle Atlantic Bight, butterfish, habitat, industry collaboration
F:19	<b>Title: Withdrawn</b>
F:20	<b>Title:</b> Measuring pelagic fish over its full vertical distribution, a combined echo-sounder and sonar estimate.
	<b>Authors:</b> Rolf J. Korneliussen, Egil Ona, and Hector Pena
	<b>Keywords:</b> blind zone, sonar, bias, avoidance indicator
F:21	<b>Title:</b> Possible reductions in Barents Sea surveys – a test of its influence on NEA cod assessment quality

	<b>Authors:</b> Yury Kovalev and Anatoly Chetyrkin
	<b>Keywords:</b> North East Arctic cod, assessment quality, frequency of surveys
F:22	<b>Withdrawn</b>
F:23	<b>Title:</b> Impact of methodological improvements of the surveys of cephalopods in Morocco
	<b>Authors:</b> Faraj Abdelmalek and Nicolas Bez
	<b>Keywords:</b> none
F:24 Poster	<b>Title:</b> Using UW TV Images for Counting Nephrops burrows in Portuguese waters
	<b>Authors:</b> Ana Moreira, Paulo Fonseca, and Cristina Silva
	<b>Keywords:</b> Norway lobster, abundance, video tracks, Portuguese continental waters
F:25 Poster	<b>Title:</b> T-NASS: Counting whales in the North Atlantic: big is useful
	<b>Authors:</b> M. Acquarone <i>et al.</i>
	<b>Keywords:</b> marine mammals, cetaceans, whales, abundance, line transect, survey, management, NAMMCO, T-NASS, TNASS
F:26 Poster	<b>Title:</b> Opportunistic analysis of echosounder data to locate buried sand lance using QTC IMPACT
	<b>Authors:</b> Theresa Kirchner, Ari S. Friedlaender, J. Christopher Taylor, Elliott L. Hazen, Michael Thompson, and David Wiley
	<b>Keywords:</b> Stellwagen Bank, sand lance, QTC IMPACT, opportunistic data analysis
F:27	<b>Withdrawn</b>

Theme Session G  
Implementation of the European Union Marine Strategy  
Framework Directive (EU MSFD): Implications for science and policy  
Conveners: W. Nikolaus Probst (Germany), Daniel Oesterwind (Germany),  
and Matt Gubbins (UK)

ICES CM 2012/ code	
G:01	<p><b>Title:</b> Combining multiple surveys to derive regional scale assessments of the status of fish communities from sub-regional scale data sets</p> <hr/> <p><b>Authors:</b> Samuel Shephard, Leonie Dransfeld, Simon P. R. Greenstreet, Elena Guijarro-Garcia, Daniel Oesterwind, Rick Officer, and David G. Reid.</p> <hr/> <p><b>Keywords:</b> MSFD; large fish indicator; fish community; size structure; Celtic Sea</p>
G:02	<p><b>Title:</b> Setting the stage for improved MSFD food web indicators</p> <hr/> <p><b>Authors:</b> Axel G. Rossberg <i>et al.</i></p> <hr/> <p><b>Keywords:</b> food webs - function - MSFD - structure</p>
G:03 Poster	<p><b>Title:</b> Measuring MSFD Descriptor 10 microparticle indicator in the marine environment – how hard can Measuring MSFD Descriptor 10 microparticle indicator in the marine environment - how hard can it be?</p> <hr/> <p><b>Authors:</b> Heather A. Leslie and A. Dick Vethaak</p> <hr/> <p><b>Keywords:</b> marine litter, microplastics, indicator, monitoring, analytical methods</p>
G:04	<p><b>Title:</b> Contaminants status assessment in the Polish sector of the Baltic Sea within MSFD</p> <hr/> <p><b>Authors:</b> T. Zalewska, B. Danowska, J. Woron, A. Olszewska, and J. Szlinder - Richert</p> <hr/> <p><b>Keywords:</b> contamination, hazardous substances, MSFD, Baltic Sea</p>
G:05	<p><b>Title:</b> Challenges and merits of MSFD implementation in the Polish sector of the Baltic Sea – environmental status assessment linking multiple indicators and pressures</p> <hr/> <p><b>Authors:</b> Elżbieta Łysiak-Pastuszek <i>et al.</i></p>

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- Keywords:** environmental status assessment, eutrophication, biodiversity, MSFD, Baltic Sea
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- G:06    **Title:** Should we protect/restore the age structure of exploited fish stocks?
- 
- Authors:** Thomas Brunel and GerJan Piet
- 
- Keywords:** demographic-structure, fish stock management, GES descriptor, North Sea, resilience, TEP
- 
- G:07    **Title:** Testing of future contaminant monitoring programmes capable of addressing descriptor 8 as defined by the Marine Strategy Framework Directive
- 
- Authors:** T. Maes, B. P. Lyons, and J. Thain
- 
- Keywords:** Marine Strategy Framework Directive (MSFD), SGIMC, biomarkers and chemical monitoring, integrated assessment
- 
- G:08    **Title:** Case study: potential to use an integrated assessment framework for contaminants and biological effects to determine Good Environmental Status for descriptor 8 under the Marine Strategy Framework Directive.
- 
- Authors:** B. P. Lyons, T. Maes, J. E. Thain, C. D. Robinson, and M. J. Gubbins
- 
- Keywords:** Marine Strategy Framework Directive (MSFD), Biological effects techniques, biomarkers and biomonitoring
- 
- G:09    **Title:** fisheries cruises for marine litter monitoring
- 
- Authors:** T. Maes, M. Nicolaus, and J. Thain
- 
- Keywords:** Marine Strategy Framework Directive (MSFD), Descriptor 10, marine litter monitoring, distribution and types
- 
- G:10    **Title:** The use of biological effect measurements to assist the determination of GES for EU MSFD descriptor 8
- 
- Authors:** John Thain, Matthew J. Gubbins, Craig Robinson, Ian Davies, and Dick Vethaak
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- Keywords:** integrated monitoring, biological effects, Marine Strategy Framework Directive, Descriptor 8
- 
- G:11    **Title:** A good environmental status assessment procedure for benthic habitats: weighing and integrating alternative approaches
- 
- Authors:** Gert Van Hoey, Jozefien Derweduwen, Sofie Vandendriessche, and Kris Hostens
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- Keywords:** benthic habitats, indicators, targets, integrative assessment procedure
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- G:12 **Title:** Setting ecological benchmarks and combining status across indicators and descriptors: lessons learned from integrated advice and assessments
- 
- Authors:** Jake Rice
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- Keywords:** MSFD; descriptors; indicators; management benchmarks; integrated assessments
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- G:13 **Title:** A process for evaluating management measures to achieve Good Environmental Status
- 
- Authors:** H. J. Bloomfield, A. M. Knights and L. A. Robinson *et al.*
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- Keywords:** European regional seas; management strategy evaluation; Good Environmental Status; costs and benefits
- 
- G:14 **Title:** Descriptor 2 of the Marine Strategy Framework Directive: ten suggestions to move forward
- 
- Authors:** Henn Ojaveer *et al.*
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- Keywords:** good environmental status, non-indigenous species, generic suggestions
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- G:15 **Title:** Proxies for estimation of relative fishing mortality when biomass is unknown
- 
- Authors:** Rainer Froese and Arlene Sampang
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- Keywords:** Marine Strategy Framework Directive, proxies for fishing pressure
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- G:16 **Title:** Assessing Good Environmental Status for Descriptor 8 – an integrated assessment of contaminants and their biological effects across multiple matrices in the Firth of Forth, Scotland
- 
- Authors:** C. D. Robinson, M. J. Gubbins, B. P. Lyons, J. Bignell, T. Bean, K. MacNeish, P. Dymond, J. Dobson, L. Webster, and J. E. Thain
- 
- Keywords:** Integrated monitoring, Firth of Forth, Marine Strategy Framework Directive, Descriptor 8
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- G:17 **Title:** Temporal trends in the trophic guild composition in fish communities: development of indicators to support the Marine Strategy Framework Directive.
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- Authors:** Paula S. Haynes, Simon P. R. Greenstreet, Deirdre Brophy, David G. Reid, and Samuel Shephard
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	<b>Keywords:</b> Trophic Guilds Indicator, fish community, resilience, Northeast Atlantic
G:18	<b>Withdrawn</b>
G:19 Poster	<b>Title:</b> The usefulness of secondary fish stock indicators regarding the MSFD descriptor 3
	<b>Authors:</b> Wolfgang Nikolaus Probst, and Daniel Oesterwind
	<b>Keywords:</b> Marine Strategy Framework Directive, primary indicator, secondary indicator, Descriptor 3, stock status, assessment
G:20 Poster	<b>Title:</b> New indicators for assessing coastal benthic biodiversity
	<b>Authors:</b> Kaire Torn, Kristjan Herkül, and Georg Martin
	<b>Keywords:</b> biodiversity indicator, macrovegetation, stormcast, remote sensing, Baltic Sea
G:21 Poster	<b>Title:</b> Assessment and Monitoring of Ocean Noise in Irish Waters
	<b>Authors:</b> Suzanne Beck, Joanne O'Brien, Michel Andre, Simon Berrow, and Ian O'Connor
	<b>Keywords:</b> anthropogenic noise, Indicator 11.1.1, Indicator 11.2.1, MSFD
G:22 Poster	<b>Title:</b> 137Cs as core indicator of the Baltic Sea marine ecosystem health
	<b>Authors:</b> T. Zalewska and M. Suplinska
	<b>Keywords:</b> cesium 137, core indicator, fish, Baltic Sea
G:23 Poster	<b>Title:</b> Interactions between reflectance spectra and primary production of different algal communities ( <i>Fucus vesiculosus</i> and <i>Cladophora glomerata</i> )
	<b>Authors:</b> Teemar Püss, Tiina Paalme, and Tiit Kutser
	<b>Keywords:</b> reflectance spectra, primary production, <i>Fucus vesiculosus</i> , <i>Cladophora glomerata</i>

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Theme Session H

Advances in the traceability of fish and fish products: from species to populations

Conveners: Gary R. Carvalho (UK), Einar Eg Nielsen (DK), and  
Jann Th. Martinsohn (IT)

ICES CM 2012/ code	
H:01	<p><b>Title:</b> SNP discovery in <i>Thunnus alalunga</i> and <i>T. thynnus</i> provide insights into world-wide population structure and a traceability tool for <i>T. alalunga</i></p> <hr/> <p><b>Authors:</b> Aitor Albaina <i>et al.</i></p> <hr/> <p><b>Keywords:</b> tuna, SNP discovery, population genetics and traceability, whole distribution range</p>
H:02	<p><b>Title:</b> Population genetic structure and traceability of the European anchovy (<i>Engraulis encrasicolus</i>) using SNP-type markers</p> <hr/> <p><b>Authors:</b> Iratxe Zarraonaindia, Aitor Albaina, Mikel Iriondo, Miguel Angel Pardo, Carmen Manzano, W. Stewart Grant, Xabier Irigoien, and Andone Estonba</p> <hr/> <p><b>Keywords:</b> <i>Engraulis encrasicolus</i>, genetic population structure, traceability tool, whole distribution range</p>
H:03	<p><b>Title:</b> Aquaculture forensics: Tracing the source of farmed escapees with DNA</p> <hr/> <p><b>Authors:</b> Kevin A. Glover and Øystein Skaala</p> <hr/> <p><b>Keywords:</b> escapees, aquaculture, traceability, fisheries forensics, Norway</p>
H:04	<p><b>Title:</b> Fisheries forensics: The Norwegian Minke whale DNA register (NMDR)</p> <hr/> <p><b>Authors:</b> Kevin A. Glover, Tore Haug, Nils Øien, Lars walløe, Lotta Lindblom, Bjørghild B. Seliussen, and Hans J. Skaug</p> <hr/> <p><b>Keywords:</b> DNA register, commercial whaling, individual identification, Norway</p>
H:05	<p><b>Title:</b> From research to reality: transferring state-of-the-art population genetics into forensic traceability tools for fisheries monitoring and enforcement</p> <hr/> <p><b>Authors:</b> Rob Ogden and Ross McEwing</p> <hr/> <p><b>Keywords:</b> Europe, geographic origin, mislabelling, DNA</p>

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H:06	<b>Title:</b> FishPopTrace: an integrated European programme for tackling Illegal, Unregulated and Unreported (IUU) Fishing and consumer fraud
	<b>Authors:</b> Gary R Carvalho and the FishPopTrace consortium
	<b>Keywords:</b> European waters; traceability; IUU; fisheries forensics

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H:07	<b>Title:</b> FishPopTrace: a new genetic technique for fisheries monitoring and the identification of IUU.
	<b>Authors:</b> Sarah Helyar, Morten Limborg, Dorte Bekkevold, Martin Taylor, and Gary Carvalho
	<b>Keywords:</b> SNPs, traceability, authenticity, herring, commercial fisheries, IUU

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H:08	<b>Title:</b> The power of integrating genetic and otolith analytical approaches into the spatial management of exploited marine fishes
	<b>Authors:</b> G. E. Maes, E. L. Cuveliers, E. Diopere, A. Cariani, A. J. Geffen, and F. A. M. Volckaert
	<b>Keywords:</b> connectivity, traceability, assignment, isolation-by-distance, microsatellites, microchemistry

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H:09	<b>Title:</b> Unraveling biocomplexity of Northeast Atlantic herring stocks using SNP markers
	<b>Authors:</b> Dorte Bekkevold, Morten T. Limborg, Sarah J. Helyar, Martin I. Taylor, Einar E. Nielsen, Gary R. Carvalho, and FishPopTrace Consortium
	<b>Keywords:</b> spatio-temporal structure, genetic stock identification, traceability, Northeast Atlantic

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H:10	<b>Title:</b> Population structure of marine fish: a gis-based tool supporting science and decision development for managing, conservation and policy making
	<b>Authors:</b> Eoin Mac Aoidh and Jann Th. Martinsohn
	<b>Keywords:</b> visualization, management, conservation, policy, legislation, MCS, stakeholders

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H:11	<b>Title:</b> Where does the cod come from? Panels of gene-associated markers provide vastly improved origin assignment in Atlantic cod ( <i>Gadus morhua</i> )
	<b>Authors:</b> Einar Eg Nielsen, Jakob Hemmer-Hansen, Martin Taylor, FishPopTrace consortium, and Gary R Carvalho
	<b>Keywords:</b> Atlantic cod, population genetics/genomics, DNA, population assignment

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H:12	<b>Title:</b> The world of illegal, unreported and unregulated fishing
	<b>Authors:</b> Michele Kuruc
	<b>Keywords:</b> illegal, unreported and unregulated fishing, and monitoring, control and surveillance

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H:13	<b>Title:</b> Patterns and drivers of seafood mislabelling in European markets
	<b>Authors:</b> Amanda L. Bréchon and Stefano Mariani
	<b>Keywords:</b> Europe, cod, seafood mislabelling, legislation, governance

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H:14	<b>Title:</b> Clinal Variation at Pantophysin Locus (PanI) in the North-East Arctic Cod ( <i>Gadus morhua morhua</i> L.) in the Barents Sea
	<b>Authors:</b> Daria A. Zelenina, Galina A. Makeenko, Alexander A. Volkov, and Nikolai S. Mугue
	<b>Keywords:</b> North-East Arctic Cod, Pantophysin, clinal variation

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H:15	<b>Title:</b> Genomic tools for fishery and conservation of the European hake
	<b>Authors:</b> Ilaria Milano <i>et al.</i>
	<b>Keywords:</b> European hake, SNPs, outlier, Atlantic and Mediterranean

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H:16 Poster	<b>Title:</b> Consistency between management units and genetic structure in saithe ( <i>Pollachius virens</i> )? Application of modern genetic tools to an exploited species in the North Atlantic
	<b>Authors:</b> Atal Saha <i>et al.</i>
	<b>Keywords:</b> Population genetic structure, Single Nucleotide Polymorphisms, Stock identification, North Atlantic

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Joint ICES/PICES -  
Multidisciplinary perspectives in the use (and misuse) of  
science and scientific advice in Marine Spatial Planning

Conveners: Andreas Kannen (Germany), Roland Cormier (Canada),  
Mel Austen (UK), and Thomas Therriault (PICES, Canada)

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| I:01 | <b>Title:</b> <b>Withdrawn</b>  |
| I:02 | <p><b>Title:</b> Petroleum activities in the Lofoten area: What is the worst case scenario?</p> <hr/> <p><b>Authors:</b> Anne Blanchard, Ragnhild Boland, Jan Helge Fosså, Kjellrun Hiis Hauge, Daniel Howell, and Frode Vikebø</p> <hr/> <p><b>Keywords:</b> worst case scenario, petroleum activity, uncertainty, decision-making</p>                         |
| I:03 | <p><b>Title:</b> Multiple interests across European coastal waters: The need for a common language</p> <hr/> <p><b>Authors:</b> Jorge Ramos <i>et al.</i></p> <hr/> <p><b>Keywords:</b> CoExist project consortium, multi-criteria analysis (MCA), case studies, European coastal zone</p>  |
| I:04 | <p><b>Title:</b> Integrated Bayesian risk analysis of ecosystem management in the Gulf of Finland, the Baltic Sea – How to do it?</p> <hr/> <p><b>Authors:</b> Inari Helle, Jarno Vanhatalo, Mika Rahikainen, Samu Mäntyniemi, and Sakari Kuikka</p> <hr/> <p><b>Keywords:</b> Bayesian networks, Gulf of Finland, environmental management, multiple risks</p> |
| I:05 | <p><b>Title:</b> Key challenges with the use of risk assessments of large accidents in marine spatial planning</p> <hr/> <p><b>Authors:</b> Erik Olsen</p> <hr/> <p><b>Keywords:</b> risk assessments, impacts, errors</p>  |
| I:06 | <p><b>Title:</b> Petroleum activities in the Lofoten area: What is the scientists' role in the decision making process?</p> <hr/>   |

	<b>Authors:</b> Ragnhild Boland
	<b>Keywords:</b> The Barents Sea, petroleum activity, natural resource management
I:07	<b>Title:</b> Mapping inshore fishing activity to inform marine planning in Scotland: A pilot project using stakeholder data in the Pentland Firth and Orkney waters
	<b>Authors:</b> Matt Gubbins, Anne McLay, Ian Davies, Gareth Jones, Robert Watret, Elisa Barreto, and David Bruce
	<b>Keywords:</b> Scotland, Pentland Firth, marine spatial planning, stakeholder data
I:08	<b>Title:</b> Science Policy Interactions: between policy fragmentation, integration and new paradigms for planning and management
	<b>Authors:</b> Andreas Kannen
	<b>Keywords:</b> Marine Spatial Planning (MSP), Sea Use, Science-Policy interaction
I:09	<b>Title:</b> How can the Social-Cultural Dimensions of Ecosystem Services be incorporated in MSP?
	<b>Authors:</b> Kira Gee
	<b>Keywords:</b> Marine Spatial Planning (MSP), cultural ecosystem services, stakeholder values
I:10	<b>Title:</b> Evaluating the likelihood of meeting environmental objectives using Bayesian Belief Networks (BBNs): An integrated approach to ecosystem-based management
	<b>Authors:</b> Antony M. Knights, Leonie A. Robinson, Helen J. Bloomfield <i>et al.</i>
	<b>Keywords:</b> ecosystem approach; Bayesian Belief Network; marine ecosystem; human activities
I:11	<b>Title:</b> <a href="#">Slightly Covered by Seawater. Defining the boundaries of science and sandbanks on the Dogger Bank</a>
	<b>Authors:</b> Ditte Degnbol
	<b>Keywords:</b> none
I:12	<b>Title:</b> Regulatory gap analysis approach
	<b>Authors:</b> Matthew Hardy, Julia Ekstrom, and Roland Cormier
	<b>Keywords:</b> none
I:13	<b>Title:</b> The science of negotiation

	<b>Authors:</b> Ina Krueger, Liv Berner, and Rudi Wurzel
	<b>Keywords:</b> governance, stakeholders, Dogger Bank, conflicts, negotiation
I:14	<b>Withdrawn</b>
I:15	<b>Title:</b> Fishery versus new concepts of the use of sea space – example of the Polish Marine Areas
	<b>Authors:</b> E. Andrulowicz and W. Pelczarski
	<b>Keywords:</b> Baltic Sea, fishery, large-scale constructions, Marine Spatial Planning
I:16	<b>Title:</b> Spatial interactions between human activities in the coastal area of the Adriatic Sea
	<b>Authors:</b> Fabio Grati, Øivind Bergh, Luca Bolognini, Roberto Gramolini, Torsten Schulze, and Gianna Fabi
	<b>Keywords:</b> Adriatic Sea; marine spatial planning; aquaculture; fishery
I:17	<b>Title:</b> Shetland Marine Spatial Plan: An ecosystem-based approach in formulating marine policy and management options
	<b>Authors:</b> Christina Kelly, Lorraine Gray, and Jacqueline Tweddle
	<b>Keywords:</b> Shetland, marine, spatial, plan
I:18	<b>Withdrawn</b>
I:19	<b>Title:</b> The role of knowledge and research in two case studies on cross-border MSP in the southern North Sea
	<b>Authors:</b> S. Hommes, M. A. Pastoors, V. Stelzenmüller, D. Goldsborough, F. Maes, T. K. Sørensen, R. Gerits, M. Stuiver, and B. de Vos
	<b>Keywords:</b> Marine Spatial Planning, cross-border, North Sea, Dogger Bank, Thornton Bank
I:20	<b>Title: Withdrawn</b>
I:21	<b>Title: Withdrawn</b>
I:22	<b>Title:</b> Can marine protected areas achieve their goals as management tools in northern regions? Practical lessons from Alaska, New England, and Norway
	<b>Authors:</b> Susanne F. McDermott <i>et al.</i>
	<b>Keywords:</b> Marine Protected Area, design, implementation, MPA effect, northern boreal ecosystem

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- I:23     **Title:** Representation of the use of marine space by commercial fisheries in Marine Spatial Planning
- 
- Authors:** Andronikos Kafas, Gareth Jones, Robert Watret, Ian Davies, and Beth Scott
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- Keywords:** fisheries landings, inter-annual variability, Scotland, marine spatial planning
- 
- I:24     **Title:** Ecosystem-based maritime spatial planning with focus on use of scientific knowledge
- 
- Authors:** M. Kopti, R. Aps, K. Aps, and M. Fetissov
- 
- Keywords:** Baltic Sea, ecosystem-based maritime spatial planning, participatory processes
- 
- I:25     **Title:** Struggle over the nature of the Bothnian Sea: designation of a MPA as lessons for MSP development
- 
- Authors:** Riku Varjopuro
- 
- Keywords:** marine protected area, fishing, marine spatial planning, multiple use conflict, Bothnian Sea
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- I:26     **Title:** Evaluating effectiveness of marine spatial management – some basic principles for sustaining European coastal waters
- 
- Authors:** Katrine Soma *et al.*
- 
- Keywords:** CoExist, coastal zone management, multi-criteria analysis (MCA), sustainable development, European coastal waters, fisheries, aquaculture, coastal zone
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- I:27     **Title:** Trawl fishers' perceptions as complementary inputs in the context of  
Poster   applying an ecosystem approach to the management of the Mediterranean multi-species fisheries
- 
- Authors:** V. Vassilopoulou, A. Dogrammatzi, A. Palialexis, J. Haralabous, K. N. Papadopoulou, and S. Q. Eliassen
- 
- Keywords:** stakeholders, demersal trawling, adaptive management, northeast Mediterranean
- 
- I:28     **Title:** The Trilateral Wadden Sea Cooperation – A model for transnational  
Poster   cooperation in MSP and MSFD?
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- Authors:** Christian Fischer and Andreas Kannen
- 
- Keywords:** Trilateral Wadden Sea Cooperation, transnational cooperation
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I:29 Poster	<p><b>Title:</b> Impacts of extended continental shelf delimitation on Marine Spatial Planning</p> <hr/> <p><b>Authors:</b> Juan L Suárez</p> <hr/> <p><b>Keywords:</b> extended continental shelf, marine spatial planning, national jurisdiction, European Union, global commons</p>
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Theme Session J

Beyond routine ageing: otoliths and other bony structures  
as windows into fisheries, fish ecology, and the environment

**Conveners: Karin Limburg (USA), Karin Hüsey (Denmark),  
and Stijn Bierman (the Netherlands)**

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J:01	<p><b>Title:</b> Tree-ring techniques for age validation, biochronology development, and establishing climate-growth relationships in fish and bivalve species</p> <hr/> <p><b>Authors:</b> Bryan A. Black and Christoph Stransky</p> <hr/> <p><b>Keywords:</b> otolith, biochronology, climate, North Atlantic</p>
J:02	<p><b>Title:</b> Modelling the mixing of herring stocks between the Baltic and the North Sea from otolith data</p> <hr/> <p><b>Authors:</b> Clara Ulrich <i>et al.</i></p> <hr/> <p><b>Keywords:</b> Herring, Kattegat, Skagerrak, Western Baltic, Eastern North Sea, Autumn spawners, Spring spawners, mixing, GLMM</p>
J:03	<p><b>Title:</b> Determining sources of capelin recruits in the Saguenay-St. Lawrence Marine Park (Canada) using otolith chemistry</p> <hr/> <p><b>Authors:</b> Angélique Lazartigues, Pascal Sirois, Stéphane Plourde, and Julian Dodson</p> <hr/> <p><b>Keywords:</b> Saguenay-St. Lawrence Marine Park, connectivity, recruitment, <i>Mallotus villosus</i></p>

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J:04	<p><b>Title:</b> Do fin rays and otoliths tell the same story? Comparing teleost life histories using microchemistries of calcified structures</p> <p><b>Authors:</b> O. Tzadik and C. Stallings</p> <p><b>Keywords:</b> Gulf of Mexico, fin ray chemistry, otolith chemistry, ICP-MS</p>
J:05	<p><b>Title:</b> Atlantic bluefin tuna stock identification based on otolith stable isotope composition</p> <p><b>Authors:</b> I. Fraile, H. Arrizabalaga, and J. Rooker</p> <p><b>Keywords:</b> bluefin tuna, stable isotopes, otoliths, Bay of Biscay</p>
J:06	<p><b>Title:</b> Reconstructing the environmental histories of American eels in the Saint Lawrence River using Multi-Element Profiles of Otolith</p> <p><b>Authors:</b> José Benchetrit</p> <p><b>Keywords:</b> none</p>
J:07	<p><b>Title:</b> High resolution stock discrimination of Atlantic herring (<i>Clupea harengus</i>) based on otolith shape, microstructure and genetic markers</p> <p><b>Authors:</b> Henrik Mosegaard, Lotte Worsøe Clausen, and Dorte Bekkevold</p> <p><b>Keywords:</b> stock discrimination, otolith shape, herring, Western Baltic</p>
J:08	<b>Withdrawn</b>
J:09	<p><b>Title:</b> Two methods utilizing fish and otolith morphological measurements for age determination of Baltic flounder</p> <p><b>Authors:</b> D. Zilniece, T. Baranova, M. Plikshs, and M. Goldmanis</p> <p><b>Keywords:</b> Baltic flounder, age determination, otolith biometrics</p>
J:10	<p><b>Title:</b> Boom in boarfish abundance: Insight from otolith analysis</p> <p><b>Authors:</b> Julie Olivia Coad and Karin Hüsey</p> <p><b>Keywords:</b> Boarfish, growth chronology, recruitment</p>
J:11	<p><b>Title:</b> Using otolith chemistry to reveal patterns of migration, habitat use and life-history of two deep-sea teleosts in the North Atlantic</p> <p><b>Authors:</b> C. Longmore, C. N. Trueman, F. Neat, J. A. Milton, and S. Mariani</p> <p><b>Keywords:</b> Deep-sea, North Atlantic, otolith microchemistry, stable isotope</p>
J:12	<p><b>Title:</b> Growth history of North Sea cod (<i>Gadus morhua</i>): suggestions for future scenarios</p>

- 
- Authors:** Rebecca A. M. Lauerburg, Christian Möllmann, Axel Temming, Gerd Kraus, and Peter Grønkjær
- 
- Keywords:** North Sea cod; Otolith macrostructure analysis; temperature; growth
- 
- J:13    **Title:** Using otolith shape to classify herring into spawning types: investigating possible effects of age and yearclass
- 
- Authors:** Stijn M. Bierman, Harriët van Overzee, and Mark Dickey-Collas
- 
- Keywords:** Otolith shape analysis, stock discrimination, Atlantic herring (*Clupea harengus*)
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- J:14    **Title:** Coupling otolith microstructure analysis and hydrographic backtracking suggests a mechanism for the 2000s North Sea herring recruitment failure
- 
- Authors:** Stine D. Ross, Mark R. Payne, Lotte Worsøe Clausen, and Richard D.M. Nash
- 
- Keywords:** North Sea herring; larvae; otolith microstructure; hydrographic backtracking; growth; recruitment;
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- J:15    **Title:** Fishes as biologgers: reconstructing climatic events from chemical compositions of otoliths
- 
- Authors:** Benjamin D. Walther, Michael Kingsford, and Malcolm McCulloch
- 
- Keywords:** otoliths, trace elements, corals, floods, upwelling, barium, Great Barrier Reef
- 
- J:16    **Title:** Examining spatial variation in growth patterns of Irish Sea plaice using an extended double logistic model
- 
- Authors:** M. Zölck, C. Minto, D. Brophy, C. Fox, and D. McGrath
- 
- Keywords:** Irish Sea, survival, stock identification, double-logistic hierarchical growth modelling, temperature mediation
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- J:17    **Title:** Picture this: applying digital imaging techniques to otolith data capture, analysis and interpretation
- 
- Authors:** Joe Scutt Phillips, Joanne Walton, Wendy Dawson, Graham Pilling, Sally Songer, and Ewan Hunter
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- Keywords:** morphology, incremental growth, age determination, calibration, automated systems
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- J:18    **Title:** Variability and controls of otolith growth in the anchovy of the Bay of Biscay
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	<b>Authors:</b> Pierre Petitgas, Patrick Grellier, Erwan Duhamel, Jacques Massé, and Mathieu Doray
	<b>Keywords:</b> anchovy, Biscay, otoliths, growth, metapopulation

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J:19	<b>Title:</b> Bomb radiocarbon dating of Greenland halibut otoliths in the Northwest Atlantic: where do we go from here?
	<b>Authors:</b> Karen S. Dwyer, Steven. E. Campana, and Margaret A. Treble
	<b>Keywords:</b> Greenland halibut, Northwest Atlantic; bomb radiocarbon dating; age validation

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J:20	<b>Title:</b> Relative contribution of spring- and summer-spawned bluefish to the adult population: effects of size-selective mortality, overwinter growth, and sampling bias
	<b>Authors:</b> J. W. Morley, J. A. Buckel, and T. E. Lankford
	<b>Keywords:</b> <i>Pomatomus saltatrix</i> , U.S. east coast, size-selective mortality, back-calculation

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J:21	<b>Title:</b> Otolith shape analysis of blue whiting, to describe stock structure in the NE Atlantic
	<b>Authors:</b> James Keating, C. Oudard, K. Mahe, E.Mullins, V. Trenkel, R. Officer, and D. Brophy
	<b>Keywords:</b> elliptic fourier descriptors, blue whiting, stock structure

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J:22	<b>Title:</b> Age validation of Pacific cod using stable oxygen isotopes (? 18O)
	<b>Authors:</b> Craig R. Kestelle, Thomas E. Helser, Dan G. Nichol, Delsa M. Anderl, Jennifer McKay, John W. Valley, and Ian J. Orland
	<b>Keywords:</b> Pacific cod, <i>Gadus macrocephalus</i> , otolith, oxygen isotope, mass spectrometry, age validation, temperature

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J:23	<b>Title:</b> Effects of spawning history on growth of Northeast Arctic cod ( <i>Gadus morhua</i> L.)
	<b>Authors:</b> Arild Folkvord, Christian Jørgensen, Knut Korsbrekke, Richard D.M. Nash, Trygve Nilsen, Jon Arild Folkvord, Christian Jørgensen, and Knut Korsbrekk
	<b>Keywords:</b> skipped spawning, back-calculation, growth strategies, reproduction, maturation

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J:24	<b>Title:</b> Traditional and novel techniques to assess age and growth of Atlantic bluefin tuna ( <i>Thunnus thynnus</i> ) in the western Atlantic
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	<b>Authors:</b> Walter J. Golet, Graham Sherwood, Shannon Calay, and Molly Lutcavage
	<b>Keywords:</b> bluefin tuna, Gulf of Maine, age and growth, otolith, dorsal spine
J:25	<b>Title:</b> Environmental and physiological influences on otolith chemistry in a fully marine flatfish
	<b>Authors:</b> A. M. Sturrock, C. N. Trueman, and E. Hunter
	<b>Keywords:</b> otolith microchemistry; trace elements; natural tag; flatfish; DST
J:26	<b>Title:</b> North Atlantic ecosystem shifts revealed by otolith growth, $\delta^{15}\text{N}$ & $\delta^{13}\text{C}$ chronologies
	<b>Authors:</b> P. Grønkvær J. B. Pedersen, J. Munk Nielsen, P. Steingrund, U. Matras, R. Hedeholm, K. Sünksen, and J. T. Christensen
	<b>Keywords:</b> North Atlantic, climate, cod, otolith
J:27	<b>Title:</b> A bioenergetic approach to model and reconstruct individual life traits from fish otoliths
	<b>Authors:</b> Helene de Pontual, Ronan Fablet <i>et al.</i>
	<b>Keywords:</b> none
J:38	<b>Title:</b> Episodic events recorded in otoliths - Keeping an ear to the ground
	<b>Authors:</b> Audrey Geffen and Beatriz Morales-Nin
	<b>Keywords:</b> otolith chemistry, habitat monitoring, pollution

#### Accepted for poster presentation

J:28 Poster	<b>Title:</b> Extensive otolith archive opens for reconstruction of fish life history
	<b>Authors:</b> Jane A. Godiksen, Audrey Geffen, Arild Folkvord, and Olav S. Kjesbu
	<b>Keywords:</b> Barents Sea, gadoids, otoliths, archive
J:29 Poster	<b>Title:</b> Discriminating sub-populations of Baltic Sea sprat by otolith macrostructures and body morphometrics
	<b>Authors:</b> Laura Meskendahl, Jens-Peter Herrmann, and Axel Temming
	<b>Keywords:</b> Baltic Sea, sprat, otolith annual rings, growth, migration
J:30 Poster	<b>Title:</b> The use of otolith microchemistry as a tool to delineate between natal rivers of brown trout ( <i>Salmo trutta</i> L.) parr

	<p><b>Authors:</b> Andrew L. Marriott, Mathew Cooper, Carys Davies, Clive Trueman, and Ian D. McCarthy</p> <p><b>Keywords:</b> brown trout parr, Irish Sea, natal rivers, otolith microchemistry</p>
J:31 Poster	<p><b>Title:</b> Age determination of Baltic herring: the case of the Gulf of Riga</p> <p><b>Authors:</b> Ivars Putnis Ivars and Georgs Kornilovs</p> <p><b>Keywords:</b> Baltic Sea, Gulf of Riga herring, age determination, transition zones</p>
J:32 Poster	<p><b>Title:</b> Experimental comparison of 4 preparation techniques on 2 structures for age-estimation of Rajidae: a case study on <i>Raja clavata</i></p> <p><b>Authors:</b> Ilse Maertens, Annemie Zenner, Martine Moerman, and Els Torreele</p> <p><b>Keywords:</b> <i>Raja</i> spp., dermal denticle, alizarin red, neutral red, vertebra</p>
J:33 Poster	<p><b>Title:</b> Looking into the past: Cataloguing Cefas' historical otolith archive</p> <p><b>Authors:</b> Sally Songer, Christie Stewart, Glenn Saunders, Suzy Baldry, Mark Smith, Charlotte Jennings, Mike Armstrong, and E. Hunter.</p> <p><b>Keywords:</b> Cefas, historical otoliths, climate change, elemental chemistry, stable isotopes</p>
J:34 Poster	<p><b>Title:</b> Can otolith chemistry unravel the mysteries of the Newfoundland cod?</p> <p><b>Authors:</b> Genevieve D'Avignon and George Rose</p> <p><b>Keywords:</b> otolith chemistry, Atlantic cod, <i>Gadus morhua</i>, LA-ICP-MS, natural tag</p>
J:35 Poster	<p><b>Title:</b> Some results of long-term investigations of morphological parameters of baltic cod otoliths</p> <p><b>Authors:</b> Tatjana Baranova and Dace Zilniece and Maris Plikshs</p> <p><b>Keywords:</b> Baltic cod, otolith biometrics, otolith growth</p>
J:36 Poster	<p><b>Title:</b> Discrimination between Greenland halibut in Greenland and Norwegian waters based on right otolith contours - A case study from 2007</p> <p><b>Authors:</b> Alf Harbitz, James Kennedy, Ole Thomas Albert</p> <p><b>Keywords:</b> otolith morphometrics, stock separation, Greenland halibut, discriminant analysis</p>
J:37 Poster	<p><b>Title:</b> Longitudinal length back-calculations based on otoliths versus scales differ systematically in haddock <i>Melanogrammus aeglefinus</i></p> <p><b>Authors:</b> Richard S. McBride, Hannes Baumann, and Sandra J. Sutherland</p>

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**Keywords:** Historical archives, age-structure comparisons, reconstruction of individual growth rates, Georges Bank haddock.

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J:39 **Title:** A plausible mechanism for uptake of manganese in fish otoliths – looking for “dead zones”

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**Authors:** K. E. Limburg *et al.*

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**Keywords:** otolith chemistry, manganese, hypoxia, habitat use

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### Theme Session K

#### Managing in a complex environment:

#### defining approaches for multiple species and ecosystems

**Conveners: Stuart Reeves (Belgium), Anna Rindorf (Denmark) and Steven Holmes (UK)**

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K:01 **Title:** FLBEIA: A toolbox for Bio-Economic Impact Assessment of fisheries management strategies

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**Authors:** Dorleta García, Marina Santurtun, Raúl Pallezo, Sonia Sanchez, and Marga Andres

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**Keywords:** bioeconomic model, management strategy evaluation, multiannual management plan, simulation

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K:02 **Withdrawn**

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K:03 **Title:** RTI, a spatiotemporally explicit tariff-based approach for fisheries management considering multiple species and ecosystems.

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**Authors:** Sarah B. M. Kraak, Dave G. Reid, Deirde Duggan, Edward A. Codling, Ciarán J. Kelly, and Emer Rogan

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**Keywords:** Ecosystem Approach to Fisheries Management (EAFM), fisher strategies, governance, internalised costs, mixed-fisheries management, participatory decision-making, spatiotemporal flexibility, tariffs, trade-off

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K:04 **Title:** Evaluation of tuna management and conservation measures with a spatial ecosystem and populations dynamics model

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	<b>Authors:</b> Patrick Lehodey, Inna Senina, John Sibert, and John Hampton
	<b>Keywords:</b> tuna, fisheries, management, spatial population dynamics, modeling, SEAPODYM

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K:05	<b>Title:</b> Delineating ecosystem overfishing: analysis of fishing pressure and environmental thresholds for ecological indicators
	<b>Authors:</b> Scott I. Large, Gavin Fay, Kevin Friedland, and Jason Link
	<b>Keywords:</b> Ecosystem health, derivative analysis, generalized additive modeling, GAM, ecosystem responses, ecosystem-based fisheries management

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K:06	<b>Title:</b> <b>Withdrawn</b>
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K:07	<b>Title:</b> Building fleet-based management plans, a pathway to implement an effective AEFM in European Seas
	<b>Authors:</b> Didier Gascuel
	<b>Keywords:</b> Ecosystem approach, fleet-based management, ecological impact, economic performances, European fisheries

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K:08	<b>Title:</b> Towards ecological and economical realism – modelling trade-offs in multispecies fisheries
	<b>Authors:</b> Rudi Voss, Martin F. Quaas, Jörn O. Schmidt, Olli Tahvonen, and Christian Möllmann
	<b>Keywords:</b> ecosystem-based management, trade-offs, ecological-economic model, Baltic

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K:09	<b>Title:</b> Mixed fisheries forecasts – lessons learned from their initial application to North Sea fisheries
	<b>Authors:</b> S. J. Holmes, C. Ulrich, and S. A. Reeves
	<b>Keywords:</b> advice, forecasts, mixed fisheries, North Sea

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K:10	<b>Title:</b> Trade-offs between commercial fishing fleets, marine mammals and finfish biomass
	<b>Authors:</b> Laurel Col, Robert Gamble, Sarah Gaichas, and Jason Link
	<b>Keywords:</b> multi-species modelling, trade-off evaluation, reference point determination, competing fishing fleets, protected species requirements, ecosystem-based fisheries management

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K:11	<b>Title:</b> Objective Specification of a multi-stakeholder interface to ecological models for the Ecosystem Approach to Fisheries Management
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	<b>Authors:</b> Deirdre Duggan, Keith Farnsworth, Sarah Kraak, and David Reid
	<b>Keywords:</b> stakeholders, indicators, quantitative analysis, ecosystem approach
K:12	<b>Title:</b> Towards multi-stock management plans for European fisheries
	<b>Authors:</b> Stuart Reeves, Peter Hopkins, Kenneth Patterson, and Stefanie Schmidt
	<b>Keywords:</b> long-term management plans, mixed-fisheries, multi-species, MSY
K:13	<b>Title:</b> Evaluating trade-offs for multi-species management procedures for exploited marine populations using bootstrap for highly disparate datasets
	<b>Authors:</b> Bjarki Þór Elvarsson and Guðmundur Þórðarson
	<b>Keywords:</b> multi-species models, bootstrap, uncertainty, technical interactions, management procedures
K:14	<b>Title:</b> Setting MSY targets when yield of one species affects that of other species
	<b>Authors:</b> Anna Rindorf <i>et al.</i>
	<b>Keywords:</b> MSY variants, sustainability, stakeholder consultation
K:15	<b>Title:</b> Spatial indicators for multi-species commercial catch based management
	<b>Authors:</b> Verena M. Trenkel, Jonathan Beecham, Julia Blanchard, Charles T. T. Edwards, and Pascal Lorance
	<b>Keywords:</b> indicators; cpue; spatial; multi-species
K:16	<b>Title:</b> <b>Withdrawn</b>
K:17	<b>Title:</b> Testing the robustness of HCRs applied to Baltic pelagic stocks
	<b>Authors:</b> Ernesto Jardim, Iago Mosqueira, Colin Millar, Chato Osio, and Tomas Groehsler
	<b>Keywords:</b> management, reference points, baltic, pelagic, stochastic simulation
K:18	<b>Title:</b> Towards ecosystem based management of the Norwegian Sea using coupled biophysical and fisheries models
	<b>Authors:</b> Kjell Rong Utne, Jens Christian Holst, Geir Huse, and Dankert Skagen
	<b>Keywords:</b> Norwegian spring spawning herring, blue whiting, mackerel, Norwegian Sea, ecosystem based fisheries management, multispecies model
K:19	<b>Title:</b> Indicator-based control rules for ecosystem-based fisheries management:

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	evaluating practical approaches for synthesizing the effects of fishing and the environment
	<b>Authors:</b> Gavin Fay, Scott I. Large, Jason S. Link, and Robert J. Gamble
	<b>Keywords:</b> Management Strategy Evaluation, Atlantis, MS-PROD, ecological indicators, ecosystem-based fisheries management, Northwest Atlantic
K:20	<b>Title:</b> <b>Withdrawn</b>
K:21	<b>Title:</b> Institutional organization and the ecosystem approach for science and advice: A social network analysis of ICES expert groups
	<b>Authors:</b> Dorothy J. Dankel, Jörn Schmidt, and Doug Wilson
	<b>Keywords:</b> institutions, organization, ecosystem-based science, ecosystem-based advice, social network analysis, knowledge, action
K:22	<b>Title:</b> Identification of potential target levels for Central Baltic Sea fishing mortalities taking multispecies interactions into account
	<b>Authors:</b> Morten Vinther, Stefan Neuenfeldt, Margit Eero, Michele Casini, and Henrik Sparholt
	<b>Keywords:</b> central Baltic Sea, stochastic multispecies model, stock assessment
K:23	<b>Title:</b> Movement toward Sustainable Development of Large Marine Ecosystems in Asia, Africa, and the Arctic
	<b>Authors:</b> Anne Hawkins
	<b>Keywords:</b> large marine ecosystems, sustainable development, ecosystem management
K:24	<b>Title:</b> Attaining MMSY using simple linear population models
	<b>Authors:</b> Axel G. Rossberg
	<b>Keywords:</b> MSY – time-series analysis – reference points – analytic theory
K:25	<b>Title:</b> Penalising yield: MSY and bycatch
	<b>Authors:</b> Simon Northridge, Sophy McCully, and Sophie Smout
	<b>Keywords:</b> bycatch; cetacean; PBR; MSY; elasmobranch

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**Accepted for poster presentation**

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K:26	<b>Title:</b> A pre-emptive modification of the harvest control rule for Northeast arctic cod related to expected food availability for the stock
	<b>Authors:</b> B. Bogstad and H. Gjøsæter

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**Keywords:** cod, capelin, harvest control rule, Barents Sea

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K:27 **Title:** Ecological, economic, social, and governance indicators for responsive fisheries management systems: an ECOFISHMAN approach

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**Authors:** Hugo Mendes *et al.*

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**Keywords:** fisheries, indicators, Results-based-management

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K:28 **Title:** Using one fish community to predict another: Dynamic models of predator distribution based on lower-trophic-level community structure and other habitat features

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**Authors:** Joshua P Kilborn, David F Naar, and Ernst B Peebles

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**Keywords:** Gulf of Mexico - West Florida Shelf, habitat association, multispecies assemblage, canonical

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### Theme Session L

Evolution of management frameworks to prevent overfishing  
Conveners: Michael Sissenwine (USA), Pamela Mace (New Zealand), and  
Hans Lassen, (Denmark)

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L:01 **Title:** Canada's Sustainable Fisheries Framework

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**Authors:** Derek Osborne, Marc Clemens, Guillaume, and Jake Rice

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**Keywords:** Canada, precautionary approach, ecosystem-based

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L:02 **Title:** The some good and mostly bad about maximum sustainable yield' as a management target

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**Authors:** Sidney Holt

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**Keywords:** overfishing. population-dynamics. management. North Atlantic.

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L:03 **Title:** The evolving international policy context for "Overfishing" and "Sustainable"

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	<b>Authors:</b> Jake Rice
	<b>Keywords:</b> fisheries; biodiversity; sustainability; marine policy;
L:04	<b>Title:</b> Scientific support for status determinations, stock rebuilding, and Annual Catch Limit Forecasting for US Fisheries
	<b>Authors:</b> Richard D. Methot Jr. (and possible co-authors)
	<b>Keywords:</b> stock assessment, overfishing, rebuilding, forecasting
L:05	<b>Title:</b> Changing attitudes 1970–2012 - evolution of the Norwegian management framework to prevent overfishing
	<b>Authors:</b> P. Gullestad, J. Krog, S. Johansen, J. Williams, O. A. Misund, A. Aglen, Å. Bjordal, and I. Røttingen
	<b>Keywords:</b> Management, scientific advice, harvest control rules, Norwegian/Barents Sea
L:06	<b>Title:</b> A discussion of the NAFO Precautionary Approach Framework
	<b>Authors:</b> W. Brodie, P. Shelton, E. Couture, and K. Dwyer
	<b>Keywords:</b> NAFO, precautionary approach framework
L:07	<b>Title:</b> ICES Advisory Framework 1977–2011: From MSY to Precautionary Approach and Back
	<b>Authors:</b> Hans Lassen, Ciaran Kelly and Michael Sissenwine
	<b>Keywords:</b> none
L:08	<b>Title:</b> <b>Withdrawn</b>
L:09	<b>Title:</b> Evolution of New Zealand's fisheries management frameworks to prevent overfishing
	<b>Authors:</b> Pamela M. Mace
	<b>Keywords:</b> overfishing, New Zealand, fisheries management, maximum sustainable yield
L:10	<b>Title:</b> Experience with formal harvest strategies in Australia
	<b>Authors:</b> Malcolm Haddon, Keith Sainsbury, Tony Smith, and David Smith
	<b>Keywords:</b> Australia, economic target, hard limit
L:11	<b>Title:</b> Rebuilding depleted fishery stocks under environmental variation: a flexible approach to MSY biomass targets

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- Authors:** Steven Murawski, Michael Sissenwine, Pamela Mace, and William Hogarth
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- Keywords:** MSY, rebuilding depleted stocks, biomass reference points, flexibility
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- L:12    **Title:** Canada's fishery decision-making framework incorporating the precautionary approach
- 
- Authors:** Ghislain A. Chouinard, Marc Clemens, Peter A. Shelton, Jake Rice, Daniel Duplisea, Rob Kronlund, and Estelle Couture
- 
- Keywords:** precautionary approach, reference points, stock status, harvest rules, removal rate
- 
- L:13    **Title:** New England groundfish management: lessons learned and lessons forgotten
- 
- Authors:** Michael Sissenwine and Steven Murawski
- 
- Keywords:** overfishing, New England groundfish, rebuilding, MSFCMA
- 
- L:14    **Title:** MSC experiences in developing an operational interpretation of fisheries management best practice
- 
- Authors:** David Agnew, Daniel Hogarth, Nicolas Gutierrez, and Amanda Stern-Pirlot
- 
- Keywords:** MSC; ecolabelling; certification; global fisheries management best practices
- 
- L:15    **Title:** Evolution of management to prevent overfishing in New England
- 
- Authors:** Brian Rothschild and Yue Jiao
- 
- Keywords:** New England, overfishing, management
- 
- L:16    **Title:** JAKFISH policy brief: coping with uncertainty, complexity and ambiguity in fisheries management through participatory knowledge development
- 
- Authors:** M. A. Pastoors *et al.*
- 
- Keywords:** fisheries management, participatory modelling, management plan, legitimacy, salience, credibility, social network analysis
- 
- L:17    **Title:** The estimation of the Fmsy for selected Baltic stocks, using analytical equilibrium curves for yield and biomass
- 
- Authors:** Jan Horbowy and Anna Luzencyk
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	<b>Keywords:</b> reference points, management, maximum sustainable yield, Baltic
L:18	<b>Title:</b> <b>Withdrawn</b>
L:19	<b>Title:</b> Communicating science recommendations for management decisions: The Kobe Tuna Regional Fishery Management Organization (RFMO) efforts to harmonize scientific assessment practices and communication methods
	<b>Authors:</b> Keith Chanon
	<b>Keywords:</b> Kobe, Strategy Matrix, Kobe Plot, stock assessment, science advice, RFMO
L:20	<b>Title:</b> The Baltic Sea fisheries – a case of regulatory overfishing
	<b>Authors:</b> R. Aps and H. Lassen
	<b>Keywords:</b> Baltic Sea, regulatory overfishing, fisheries management
L:21	<b>Title:</b> Diverting the bureaucratic juggernaut of top-down control: the case of crab fishers off Devon UK
	<b>Authors:</b> Paul J. B. Hart
	<b>Keywords:</b> Management, conservation, top-down, bottom-up, history, crabs, inshore fisheries.
L:22	<b>Title:</b> The strategic scientific framework of the Ecosystem Approach to Fisheries in Norway: Adaptive management of living marine resources by integrating different data sources and key ecological processes (ADMAR)
	<b>Authors:</b> Dorothy J. Dankel <i>et al.</i>
	<b>Keywords:</b> ecosystem approach to fisheries, fish stock assessment, length-based ecosystem models, data-rich stocks, data-poor stocks, harvest control rules, marine ecosystem management
L:23	<b>Title:</b> Unintended consequences of MSY proxies for defining overfishing
	<b>Authors:</b> Steven X. Cadrin
	<b>Keywords:</b> overfishing, MSY, proxies
L:24	<b>Title:</b> Transboundary quota enforcement with an application to the North East Arctic cod fishery
	<b>Authors:</b> Rodney Beard and Linda Nostbakken
	<b>Keywords:</b> North-East Arctic cod fishery, Bioeconomic model, Game theory, Statistical analysis

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- L:25     **Title:** Reconsidering historical definitions of overfishing and the balance between sustainable use and overexploitation
- 
- Authors:** Daniel R. Goethel, Steven X. Cadrin, and Brian J. Rothschild
- 
- Keywords:** Sustainability, overfishing, fisheries management, ICES history
- 
- L:26     **Title:** The collapse of the Norwegian spring-spawning herring stock; Overfishing or environmental change
- 
- Authors:** Ingolf Røttingen and Sigurd Tjelmeland
- 
- Keywords:** Stock collapse, fishery, climate change, Norwegian Sea
- 
- L:27     **Title:** The Baltic Sea RAC: from positional to collaborative interest based negotiation
- 
- Authors:** K. Aps, M. Fetissov, and M. Kopti
- 
- Keywords:** Baltic Sea, BS RAC, collaborative negotiation, regulatory overfishing
- 
- L:28     **Title:** The role of fish life-history evolution in a marine ecosystem: ignoring evolution can lead to overfishing
- Poster
- 
- Authors:** Asta Audzijonyte, Anna Kuparinen, and Elizabeth A. Fulton
- 
- Keywords:** Atlantis, Ecosystem, fisheries-induced evolution, life-history, overfishing
-

Joint ICES/ESSAS/PICES/AOSB Theme Session M  
Subarctic-Arctic Interactions: Ecological consequences  
Conveners: Ken Drinkwater (Norway), Olafur S. Astthorsson (Iceland),  
George Hunt (USA), and Anne Hollowed (PICES, USA)

ICES CM 2012/ code	
M:01	<p><b>Title:</b> Higher growth efficiency of Arctic compared to Atlantic heterotrophic bacteria in the Barents Sea Polar Front area</p> <hr/> <p><b>Authors:</b> Knut Yngve Børsheim and Kenneth F. Drinkwater</p> <hr/> <p><b>Keywords:</b> Barents Sea, Polar Front, bacteria, growth reate, growth efficiency</p>
M:02	<p><b>Title:</b> Spatial distribution and new migration patterns of Northeast Atlantic mackerel during 2007–2011</p> <hr/> <p><b>Authors:</b> Leif Nøttestad <i>et al.</i></p> <hr/> <p><b>Keywords:</b> mackerel, new distribution pattern, feeding, geographical expansion, zonal distribution, inter-annual dynamics, and length-dependent migration</p>
M:03	<p><b>Title:</b> Ecological impacts of recent extension of feeding migration of NE-Atlantic mackerel into the ecosystem around Iceland</p> <hr/> <p><b>Authors:</b> Gudmundur J. Óskarsson, Sveinn Sveinbjörnsson, Asta Gudmundsdóttir, and Thorsteinn Sigurdsson</p> <hr/> <p><b>Keywords:</b> <i>Scomber scombrus</i>, mackerel, extended migration, ecological impacts, diet composition, consumption</p>
M:04	<p><b>Title:</b> Distribution, abundance, and biology of polar cod, <i>Boreogadus saida</i> (Lepechin 1773), in Icelandic waters</p> <hr/> <p><b>Authors:</b> Olafur S. Astthorsson</p> <hr/> <p><b>Keywords:</b> Polar cod, Icelandic waters, distribution, abundance, biology</p>
M:05	<p><b>Title:</b> A radiolarian tracer for mesoscale eddies from coastal areas in the central subarctic Pacific</p> <hr/> <p><b>Authors:</b> Takahito Ikenoue, Hiromichi Ueno, and Kozo Takahashi</p> <hr/> <p><b>Keywords:</b> mesoscale eddy, sediment trap, Radiolaria, <i>Rhizoplegma boreale</i>, coastal water, long-term monitoring</p>

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M:06	<b>Title:</b> Towards A More Balanced View of Marine Ecosystems
	<b>Authors:</b> Charles H. Greene
	<b>Keywords:</b> bottom-up forcing, Northwest Atlantic, regime shifts, salinity anomalies

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M:07	<b>Title:</b> The feeding ecology of pelagic fish in the southwestern Norwegian Sea – Inter species food competition between herring ( <i>Clupea harengus</i> ) and mackerel ( <i>Scomber scombrus</i> )
	<b>Authors:</b> Høgni Debes, Eydna í Homrum, Jan Arge Jacobsen, and Hjálmar Hátún
	<b>Keywords:</b> herring, mackerel, feeding, food competition, southwestern Norwegian Sea, spatio-temporal variation

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M:08	<b>Title:</b> Framework for impact analysis of offshore Arctic operations - Identification, prioritisation and mitigation
	<b>Authors:</b> M. J. van den Heuvel-Greve, and B. C. Bolman
	<b>Keywords:</b> Arctic, impact, assessment, sustainability

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M:09	<b>Title:</b> On the role of advection on the ecology of Arctic and Subarctic seas
	<b>Authors:</b> Ken Drinkwater
	<b>Keywords:</b> Arctic, Subarctic, advection, ecology

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M:10	<b>Title:</b> Secondary productivity in the Barents Sea - role of phytoplankton and climate effects
	<b>Authors:</b> Padmini Dalpadado <i>et al.</i>
	<b>Keywords:</b> production, remote sensing, models, observations, climate effects, Barents Sea

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M:11	<b>Title:</b> Comparison across 42 North Atlantic fish stocks of temporal patterns in recruitment dynamics, including the role of spawning stock biomass and temperature
	<b>Authors:</b> Geir Ottersen, Leif Christian Stige, Joel M. Durant, Tristan Rouyer, Kenneth Drinkwater, and Nils Chr. Stenseth
	<b>Keywords:</b> recruitment, temperature, North Atlantic, statistical modelling

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M:12	<b>Title:</b> The Barents and Chukchi Seas: Comparison of two Arctic shelf ecosystems
	<b>Authors:</b> George Hunt <i>et al.</i>

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- Keywords:** Arctic Shelf Seas; benthos; climate impacts; fish stocks; marine mammals
- 
- M:13    **Title:** What impact has climate change had on Irish fisheries?
- 
- Authors:** Rodney Beard
- 
- Keywords:** Climate change, Environmental economics, Fisheries economics, Irish commercial fisheries
- 
- M:14    **Title:** Studying the effect of migrating whales on the ecosystem of the Barents Sea using an end-to-end model
- 
- Authors:** Cecilie Hansen and Mette Skern-Mauritzen
- 
- Keywords:** End-to-end modeling, seasonal migration, baleen whales, top-down effects
- 
- M:15    **Title:** Some biological signs of the Northwest Pacific regime shift in the late 2000s
- 
- Authors:** Boris N. Kotenev, A. S. Krovnin, and N. V. Klovach
- 
- Keywords:** Northwest Pacific, climatic regime shift, marine ecosystem, salmon, Pacific sardine
- 
- M:16    **Title: Withdrawn**
- 
- M:17    **Title:** A comparison of phytoplankton growth conditions and photosynthetic performance at the Jan Mayen Front in the Norwegian and the Polar Front in the Barents Sea
- 
- Authors:** Svein Rune Erga, Nicolausi Ssebiyonga, Børge Hamre, Øyvind Frette, Francisco Rey, and Ken Drinkwater
- 
- Keywords:** Norwegian Sea, Barents Sea, front, phytoplankton
- 
- M:18    **Title:** Subarctic-Arctic interactions: Seasonal variation in fish-prey interaction the Barents Sea
- 
- Authors:** Edda Johannesen, Andrey Dolgov, Åge Høines, Randi Ingvaldsen, Geir Odd Johansen, Pavel Murashko, Andrey Sokolov, and Rupert Wieneroither
- 
- Keywords:** Barents Sea, migration, seasonality, spatial distribution, diet
- 
- M:19    **Title:** On the Front lines
- 
- Authors:** Ken Drinkwater, Ilker Fer, Marek Ostrowski, and Kjell Arne Mork
- 
- Keywords:** Fronts, Arctic, Atlantic, Subarctic, interleaving, turbulence
-

M:20	<b>Title:</b> <b>Withdrawn</b>
M:21	<p><b>Title:</b> Potential movement of fish and shellfish stocks from the sub-Arctic to the Arctic Ocean: Part A evaluation of exposure</p> <hr/> <p><b>Authors:</b> Harald Loeng, Anne B. Hollowed, and Benjamin Planque</p> <hr/> <p><b>Keywords:</b> Arctic, Sub-Arctic, fish, shellfish, phytoplankton</p>
M:22	<p><b>Title:</b> Potential movement of fish and shellfish stocks from the sub-Arctic to the Arctic Ocean: Part B evaluation of the vulnerability of fish and shellfish stock to changing environmental conditions.</p> <hr/> <p><b>Authors:</b> Anne B. Hollowed, Harald Loeng, and Benjamin Planque</p> <hr/> <p><b>Keywords:</b> Arctic, Sub-Arctic, fish, shellfish, phytoplankton</p>
M:23	<p><b>Title:</b> Carbon flux through the microbial food web in the Barents Sea and the Beaufort Gyre</p> <hr/> <p><b>Authors:</b> Peter Lavrentyev, Gayantonia Franzè, Konstantin Solovyev, Camilla Sevensen, Kelly Young, and Jennifer Putland</p> <hr/> <p><b>Keywords:</b> Barents Sea, Beaufort Gyre, microzooplankton, <i>Calanus</i></p>
M:24	<p><b>Title:</b> Broad-scale comparisons of productivity patterns in sub-arctic ecosystems: energy flow to larval fish</p> <hr/> <p><b>Authors:</b> Trond Kristiansen, Charles Stock, Elizabeth Siddon, R. Gregory Lough, Franz Mueter, Enrique Curchitser, Ken Drinkwater, and Ron Heintz</p> <hr/> <p><b>Keywords:</b> climate change, ecosystem comparison, recruitment variability, larval fish, mechanistic understanding</p>
M:25	<p><b>Title:</b> Circumpolar biodiversity: results of climate fluctuations and intermingling of Atlantic and Pacific species?</p> <hr/> <p><b>Authors:</b> K. E. Jørstad and A.-L. Agnalt</p> <hr/> <p><b>Keywords:</b> Arctic biodiversity, Atlantic and Pacific species, climate change, biodiversity response</p>
M:26	<p><b>Title:</b> Climate change effects on marine Arctic ecosystems</p> <hr/> <p><b>Authors:</b> Ingrid H. Ellingsen, Dag Slagstad, Ole Jacob Broch, Paul Wassmann, and Richard Bellerby</p> <hr/> <p><b>Keywords:</b> climate change, coupled models, arctic, zooplankton</p>
M:27	<b>Withdrawn</b>



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M:28 **Title:** Habitat and the shifting climate: species distributions and interactions in Arctic and Subarctic systems in the North Pacific

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**Authors:** Matthew Baker and Anne Hollowed

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**Keywords:** Subarctic-Arctic interactions, community dynamics, species interactions, ecosystem structure, compensation, resource partitioning, climate forcing, multivariate autoregressive models

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M:29 **Title:** Long-term fluctuations of species structure of the most abundant copepods in latitudinal zone of the Barents Sea

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**Authors:** Emma L. Orlova, Viktor A. Ivshin, Andrey V. Dolgov, Valentina N. Nesterova, and Irina P. Prokopchuk

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**Keywords:** copepods, species composition, biomass, Barents Sea

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M:30 **Withdrawn**

Poster

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M:31 **Title:** Microzooplankton growth and herbivory impact in the Barents Sea

Poster

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**Authors:** Gayantonia Franzè and Peter Lavrentyev

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**Keywords:** Barents Sea, microzooplankton, herbivory, growth rate

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Theme Session N

Examining the implications of complex population structure on fish resources, fisheries, assessment and management

Conveners: Lisa Kerr (USA), Niels Hintzen (The Netherlands), and Jake Kritzer (USA)

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N:01     **Title:** Fidelity within and connectivity among subpopulations of Atlantic cod

**Authors:** Douglas Zemeckis, William Hoffman, Micah Dean, Michael P. Armstrong, David Martins, and Steven X. Cadrin

**Keywords:** Atlantic cod, Gulf of Maine, population structure, acoustic telemetry

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N:02     **Title:** Improving the assessment and management of the plaice stock complex between the North Sea and the Baltic Sea.

**Authors:** Clara Ulrich *et al.*

**Keywords:** Plaice, Stock assessment, Kattegat, Skagerrak, local populations, management plan

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N:03     **Title:** Incorporating spatial population structure in stock assessment models of marine species

**Authors:** Daniel R. Goethel, Lisa A. Kerr, and Steven X. Cadrin

**Keywords:** population structure, movement models, tagging models, tag-integrated models, stock assessment

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N:04     **Title:** Preliminary spatially disaggregated stock assessment of northern hake, a widely distributed stock of the north-east Atlantic

**Authors:** Michel Bertignac, Carmen Fernández, and Richard Methot

**Keywords:** Northern hake, spatial dynamics, population structure, spatial stock assessment

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N:05     **Title:** The use of zero-inflated generalized additive models to predict aggregate functional group distributions for the Gulf of Mexico.

**Authors:** Michael D. Drexler and Cameron H. Ainsworth

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	<b>Keywords:</b> Gulf of Mexico, ecosystem modeling, functional group, biomass distribution
N:06	<b>Title:</b> The Gordian knot; Managing herring ( <i>Clupea harengus</i> ) bridging across populations, fishery units, management areas and politics
	<b>Authors:</b> Lotte Worsøe Clausen, Henrik Mosegaard, Casper Berg, and Clara Ulrich
	<b>Keywords:</b> management, population structure, Western Baltic, herring
N:07	<b>Title:</b> Assessment and management of NW Ireland Herring as part of a larger metapopulation
	<b>Authors:</b> Maurice Clarke, David O'Sullivan, Andy Campbell, Ciaran O'Donnell, and Ciaran Kelly
	<b>Keywords:</b> herring, metapopulation, stock assessment, management
N:08	<b>Title:</b> The costs of ignoring stock structure
	<b>Authors:</b> Colin Millar, Ernesto Jardim, Iago Mosqueira, and Chato Osio
	<b>Keywords:</b> management, reference points, stock structure, subpopulations, productivity, stochastic simulation
N:09	<b>Title:</b> Modelling the responses of European anchovy growth and population dynamics to environmental fluctuations
	<b>Authors:</b> Heidi Pethybridge, David Roos, Véronique Loizeau, Laure Pecquerie, and Cédric Bacher.
	<b>Keywords:</b> IBM, population dynamics, temporal variability, life-history traits, Clupeidae
N:10	<b>Title:</b> Evidence of natal homing in Atlantic cod: combining migratory trajectories with genetics
	<b>Authors:</b> Henrik Svedäng and Carl André
	<b>Keywords:</b> <i>Gadus morhua</i> ; philopatric behaviour; population structure; stock; marine connectivity; genetic assignment
N:11	<b>Title:</b> Lumpfish, <i>Cyclopterus lumpus</i> , Biological Insights and Management Recommendations
	<b>Authors:</b> Jacob M Kasper, Sigurdur Thor Jonsson, Hoskuldur Bjornsson, and Leif Nottestad
	<b>Keywords:</b> Lumpfish, Iceland, migration, trawl survey

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- N:12     **Title:** Highly variable life history of Atlantic cod in Norwegian coastal waters and its consequences for sustainable exploitation
- 
- Authors:** Mikko Heino, Torild Johansen, Erik Berg, Asgeir Aglen, Terje Svåsand, Geir Dahle, and Knut Jørstad
- 
- Keywords:** coastal cod, maximum sustainable yield, productivity, spatial population structure
- 
- N:13     **Title:** evaluating population effects and management implications of mixing between Eastern and Western Atlantic bluefin tuna stocks
- 
- Authors:** Lisa A. Kerr, Steven X. Cadrin, and David H. Secor
- 
- Keywords:** connectivity, stock structure, rebuilding, population model
- 
- N:14     **Title:** Predicting spatial distribution and population structure of Pacific swordfish with help of an ecosystem model and a statistical parameter estimation approach
- 
- Authors:** Inna Senina, Melanie Abecassis, and Patrick Lehodey
- 
- Keywords:** swordfish, Pacific Ocean, spatial population dynamics, modeling
- 
- N:15     **Title:** Partial migration in the northern Gulf of St. Lawrence Atlantic cod population
- 
- Authors:** Arnault Le Bris, Alain Fréchet, and Joseph S. Wroblewski
- 
- Keywords:** Partial migration, Atlantic cod, data-storage tags, northern Gulf of St. Lawrence
- 
- N:16     **Title:** Insight on the consequences of metapopulation structure in herring from a spatially-explicit simulation model of Atlantic herring, *Clupea harengus* L.
- 
- Authors:** Clémentine Harma, Lisa Kerr, Steve Cadrin, Maurice Clarke, and Deirdre Brophy
- 
- Keywords:** metapopulation model, Atlantic herring, Ireland, stock structure
- 
- N:17     **Title:** Connecting the oceanic population ecology of two trans-boundary anadromous Alosines
- 
- Authors:** Jamie M. Cournane, Teresa A'mar, and Christopher Glass
- 
- Keywords:** New England, trans-boundary management, anadromous fish, herring
- 
- N:18     **Title:** Life history and genetic implications of over-exploitation in Eurasian Poster perch *Perca fluviatis*, from the Matsalu Bay, North-Eastern Baltic Sea
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**Authors:** Leili Järv, Lilian Pukk, Anna Kuperinen, Tiit Raid, and Anti Vasemägi

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**Keywords:** perch, overfishing, stock collaps, genetic diversity, population genetic structure, Baltic Sea

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N:19    **Withdrawn**  
Poster

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N:20    **Withdrawn**

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N:21    **Title:** Downstream to upstream gradient along rivers in muscle fat contents in  
Poster composite samples of European eels may be explained by gradient in sex-ratio

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**Authors:** Stijn M. Bierman, S. Glorius, M. de Graaf, J. M. H. Schobben, N. Tien, and M. J. J. Kotterman

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**Keywords:** *Anguilla anguilla*; maturation, spawning migration, spatial structure, dioxine

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### Theme Session O

How does renewable energy production affect aquatic life?

Conveners: Erwin Winter (the Netherlands), Alistair Maltby (UK), Steven Degraer (Belgium), and Bjorn Tunberg (USA)

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O:01    **Title:** Unravelling the life cycle of Atlantic cod (*Gadus morhua*) and pouting (*Trisopterus luscus*) at offshore wind farms

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**Authors:** Jan Reubens, Steven Degraer, and Magda Vincx

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**Keywords:** demersal fish, windmill artificial reefs, CPUE, acoustic telemetry, Belgian part of the North Sea

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O:02    **Title:** Effects of river regulations on fjord dynamics and retention of coastal cod eggs

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	<b>Authors:</b> Mari S. Myksvoll, Anne D. Sandvik, Lars Asplin, and Svein Sundby
	<b>Keywords:</b> river regulation, fjord dynamics, coastal cod
O:03	<b>Withdrawn</b>
O:04	<b>Title:</b> The added value of 'small-scale' monitoring of the soft-sediment endobenthos around offshore wind farms in the Belgian Part of the North Sea
	<b>Authors:</b> Delphine Coates, Jan Vanaverbeke, and Magde Vincx
	<b>Keywords:</b> North Sea, Benthos, spatial and temporal patterns
O:05	<b>Title:</b> Monitoring the effects of the Belgian windmill parks on the epibenthos and demersal fish fauna of soft bottom sediments
	<b>Authors:</b> Jozefien Derweduwen, Sofie Vandendriessche, and Kris Hostens
	<b>Keywords:</b> soft bottom, epibenthos and demersal fish, windmill parks, Belgian part of the North Sea
O:06	<b>Title:</b> Biofouling and fish at offshore wind power foundation
	<b>Authors:</b> Roland Krone, Alexander Schröder, and Lars Gutow
	<b>Keywords:</b> Offshore wind power, reef effect, demersal fish, crabs, benthos, ship wrecks
O:07	<b>Title:</b> A call for hypotheses-based benthos research in offshore wind farm environmental impact studies
	<b>Authors:</b> Jennifer Dannheim <i>et al.</i>
	<b>Keywords:</b> benthos, demersal fish, impact assessment, offshore wind farm, cause-effect relationships
O:08	<b>Title:</b> Turbine height as a management tool for collision risk to birds at offshore wind farms
	<b>Authors:</b> Ian Davies and Bill Band
	<b>Keywords:</b> Seabirds, wind farms, collision risk, Scotland
O:09	<b>Title:</b> Offshore wind farms and their impact on fish abundance and community structure
	<b>Authors:</b> C. Stenberg G. E. Dinesen, M. van Deurs, C. W. Berg, H. Mosegaard, S. Leonhard, T. Groome, and J. Støttrup
	<b>Keywords:</b> Offshore wind farms, spatial distribution, pisces, artificial reef effect, BACI

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- O:10     **Title:** Monitoring high-energy littoral environments: photographic and image analysis methodologies for quantifying species and biotope coverage
- 
- Authors:** Andrew Want, Jonathan, C. Side, and Michale C. Bell
- 
- Keywords:** wave energy, ecological monitoring, climate change, photographic image analysis
- 
- O:11     **Title:** Small scale distribution of fish in offshore wind farms
- 
- Authors:** K. S. Hansen, C. Stenberg, and P. R. Møller
- 
- Keywords:** offshore wind farm, Øresund, distribution, fish.
- 
- O:12     **Title:** Quantifying harbour porpoise disturbance by offshore wind farm piling activities
- 
- Authors:** Jan Haelters, Laurence Vigin, and Steven Degraer
- 
- Keywords:** Harbour porpoise, offshore wind farms, pile driving, Belgian part of the North Sea
- 
- O:13     **Title:** Sensitivity of marine species and biotopes to hydrodynamic changes induced by extraction of wave and tidal energy
- 
- Authors:** Michael C. Bell, Michael T. Burrows, Jonathan C. Side, Andrew Want, and Susana Baston
- 
- Keywords:** Scotland, marine renewable energy, impacts, marine biotopes
- 
- O:14     **Title:** The development of benthic communities on hard substrates within OWEZ, the first Dutch offshore wind farm
- 
- Authors:** Sietse Bouma and Wouter Lengkeek
- 
- Keywords:** hard substrate, benthic reef communities, Dutch offshore wind farm
- 
- O:15     **Title:** Cod and sole behaviour in an offshore wind farm
- 
- Authors:** H. V. Winter, G. Aarts, and O. A. van Keeken
- 
- Keywords:** offshore wind farm; telemetry; demersal fish; behaviour
- 
- O:16     **Title:** Ecosystem impacts from offshore wind farms: Cross-border overview of lessons learnt from UK and Belgium
- 
- Authors:** S. N. R Birchenough and S. Degraer
- 
- Keywords:** off shore, wind farms, monitoring, benthos, and ecosystems
- 
- O:17     **Title:** Impacts of tidal power in the UK; fish and turbines – One and strike and
-

	your out!
	<b>Authors:</b> Adrian E. Williams
	<b>Keywords:</b> none
O:18	<b>Title:</b> Aerial survey techniques for assessing offshore wind farms –
	<b>Authors:</b> Stuart C. Clough, David Campbell, and Mark M. Rehfish
	<b>Keywords:</b> off shore, wind farm, monitoring, bird population, aerial survey
O:19 Poster	<b>Title:</b> The impact of underwater noise on the early life stages of fish
	<b>Authors:</b> Elisabeth Debusschere, Alain Norro, Sofie Vandendriessche, Kris Hostens, Magda Vincx, Dick Botteldooren, and Steven Degraer
	<b>Keywords:</b> underwater noise, Belgian Part of the North Sea, fish, early life stages
O:20 Poster	<b>Title:</b> Case study on effect of construction of offshore windpark on benthic communities in the NE Baltic Sea
	<b>Authors:</b> L. Rostin and G. Martin
	<b>Keywords:</b> Baltic Sea, offshore wind park, artificial substrate, benthic communities
O:21 Poster	<b>Title:</b> Offshore intertidal Hard Substrata: a New Habitat Promoting Non-indigenous Species in the Southern North Sea
	<b>Authors:</b> Francis Kerckhof, Steven Degraer, Alain Norro, and Bob Rumes
	<b>Keywords:</b> offshore wind farm, non-indigenous species, artificial substrata, Southern North Sea
O:22 Poster	<b>Title:</b> Target monitoring in offshore wind farms – the need to understand cause-effect relationships in the marine benthos
	<b>Authors:</b> Steven Degraer <i>et al.</i>
	<b>Keywords:</b> benthos, demersal fish, target monitoring, offshore wind farm, cause-effect relationships
O:23 Poster	<b>Title:</b> Environmental monitoring of offshore renewable energy installations: A plea for timely knowledge sharing
	<b>Authors:</b> Steven Degraer, Robin Brabant, and Bob Rumes
	<b>Keywords:</b> offshore wind farms, environmental impacts, knowledge sharing, North-Atlantic



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O:24 **Title:** Effects of Dutch Offshore Wind Farm OWEZ on birds

Poster

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**Authors:** Sietse Bouma, Wouter Lengkeek, Karen Krijgsveld, Ruben Fijn, and Martin Poot

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**Keywords:** offshore wind farms, bird collision victims, barrier effects, cumulative effects

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O:25 **Withdrawn**

Poster

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O:26 **Title:** Dams, Fishways, and Successful Fish Passage: Win-Win or Death by Half-Way Technologies?

Poster

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**Authors:** Jed Brown, Karin Limburg, John Waldman, Kurt Stephenson, Ed Glenn, Francis Juanez, and Adrian Jordaan

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**Keywords:** fish passage failure, main stem dams, Eastern US

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Theme Session P  
Genetic impact of aquaculture on wild populations  
Terje Svåsand (Norway), and Edward A Trippel (Canada)

ICES CM 2012/ code	
P:01	<p><b>Title:</b> Interbreeding between farmed escapees and wild cod</p> <hr/> <p><b>Authors:</b> Jon Egil Skjæraasen, Justin J Meager, and Anders Fernö</p> <hr/> <p><b>Keywords:</b> Cod, farmed escapees, hybridisation, fitness</p>
P:02	<p><b>Title:</b> Reproduction trials between wild and farmed salmon in Newfoundland (Canada)</p> <hr/> <p><b>Authors:</b> D. Hamoutene, J. Perez-Casanova, L. Lynn, K. Burt, N. Camarillo-Sepulveda, S. Kenny, P. Goulet, R. Hinks, and C. Collier</p> <hr/> <p><b>Keywords:</b> Eastern Canada, salmon, aquaculture, escapees, reproduction</p>
P:03	<p><b>Title:</b> Farmed escaped salmon and genetic interactions with wild conspecifics: What do we know, and just as important - what don't we know...</p> <hr/> <p><b>Authors:</b> Kevin A. Glover, Øystein Skaala, Vidar Wennevik, and Terje Svåsand</p> <hr/> <p><b>Keywords:</b> Farmed escapee, genetic interactions, sustainability, current knowledge, Norway</p>
P:04	<b>Withdrawn</b>
P:05	<p><b>Title:</b> Genetic tagging of farmed Atlantic Cod (<i>Gadus morhua</i> L) and detection of escapement from a commercial cod farm</p> <hr/> <p><b>Authors:</b> K. E. Jørstad, T. van der Meeren, O. I. Paulsen, G. T. Bakke, H. Otterå, G. Dahle, and T. Svåsand</p> <hr/> <p><b>Keywords:</b> farmed cod, escapement, genetic tagging, escapees identification</p>
P:06	<p><b>Title:</b> A study of growth reaction norms of farmed, wild and hybrid Atlantic salmon (<i>Salmo salar</i> L.) families exposed to different levels of stress</p> <hr/> <p><b>Authors:</b> Monica Favnebø Solberg, Øystein Skaala, Frank Nilsen, and Kevin Alan Glover</p> <hr/> <p><b>Keywords:</b> Norway, farmed escapees, genetic interaction, reaction norms</p>
P:07	<p><b>Title:</b> Global genetic divergence among worldwide distributed stocks of <i>M.</i></p>

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	<i>galloprovincialis</i>
	<b>Authors:</b> Yassine Ouagajjou and Pablo Presa
	<b>Keywords:</b> microsatellites, mussel aquaculture, mytilus stocks, gene pools
P:08	<b>Title:</b> "AquaTrace" The development of tools for tracing and evaluating the genetic impact of fish from aquaculture
	<b>Authors:</b> Einar Eg Nielsen <i>et al.</i>
	<b>Keywords:</b> aquaculture, population genetics/genomics, adaptation, population assignment, introgression
P:09	<b>Title:</b> Assessing and mitigating risk from a diversifying aquaculture industry: the potential for interaction between escapee and wild Atlantic Cod
	<b>Authors:</b> Edward A. Trippel, Craig F. Purchase, Olivia A. Puckrin, Emily Zimmerman, Brendan F. Wringe, John Bratney, and Ian A. Fleming
	<b>Keywords:</b> cod, inbreeding, inter-stock hybrid, mating, escape, telemetry, distractive behaviour
P:10	<b>Title:</b> Can the frequency of escaped salmon in the spawning stocks of Atlantic salmon the previous 20 years explain the reduction in catch?
	<b>Authors:</b> Mikko Heino, Terje Svåsand, Ole T. Skilbrei, and Vidar Wennevik
	<b>Keywords:</b> aquaculture-wild fish interactions, Atlantic salmon, catch trend, escapees, introgression
P:11	<b>Title:</b> Offspring from farmed cod ( <i>Gadus morhua</i> L.) spawning in net pens: documentation of larval survival, recruitment to spawning stock, and successful reproduction
	<b>Authors:</b> T. van der Meeren, K. E. Jørstad, O. I. Paulsen, and G. Dahle
	<b>Keywords:</b> genetic interactions, spawning stock recruitment, successful reproduction, Atlantic cod
P:12	<b>Title:</b> Recapture and spread of escaped farmed Atlantic salmon depends on the life stage at escape and farm location
	<b>Authors:</b> Ove T. Skilbrei and Terje Svåsand
	<b>Keywords:</b> farmed Atlantic salmon, fish farms, escapements, environmental risks
P:13	<b>Title:</b> No genetic changes detected in the wild population in a long-term (20 year) study of lobster ( <i>Homarus gammarus</i> ) enhancement in Norway

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**Authors:** K. E. Jørstad, E. Farestveit, and A.-L. Agnalt

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**Keywords:** lobster enhancement, genetic changes, long time study, allozymes, microsatellites

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P:14 **Title:** Factors affecting farmed to wild gene flow in Atlantic salmon populations

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**Authors:** Ola H. Diserud, Peder Fiske, Kjetil Hindar, and Sten Karlsson

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**Keywords:** Genetic introgression, Life cycle model, Norwegian salmon rivers

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P:15 **Title:** Risk assessment of escaped Atlantic salmon- Assessing impact of escaped farmed salmon on genetic integrity of wild salmon populations

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**Authors:** Geir Lasse Taranger, Kevin A. Glover, Ove T. Skilbrei, Øystein Skaala, Vidar Wennevik, and Terje Svåsand

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**Keywords:** escaped salmon, genetic impact, risk assessment, genetic markers

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P:16 **Title:** Consequences of interbreeding with farm escapees on adaptive phenotypic plasticity in Atlantic salmon

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**Authors:** Jeffrey A. Hutchings

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**Keywords:** phenotypic plasticity, reaction norms, farmed-wild interbreeding, common-garden experiment

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P:17 **Title:** Effects of wild salmon origin and environment on the outcome of competition with farmed salmon

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**Authors:** Line Sundt-Hansen, Grethe Robertsen, and Kjetil Hindar

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**Keywords:** Atlantic salmon, escaped farmed salmon, juvenile, competition, interference

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P:18 **Title:** Evaluating genetic interactions between domesticated and wild fish.  
Poster

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**Authors:** Gloria Blanco and José Antonio Sánchez.

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**Keywords:** introgression, genetic markers, brown trout, genetic impacts

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P:19 **Title:** Incidence of farmed Atlantic salmon in the sea fishery along the North-Norwegian coast line  
Poster

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**Authors:** M-A. Svenning, M. Falkegård, V. Wennevik, J-P. Vähä, R. D. Fernandez, M. Ozerov, S. Prusov, E. Samoylova, T. Kalske, B. Christiansen, and E. Niemelä

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**Keywords:** North-Norway, salmon sea fishery, incident of farmed salmon

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Joint ICES/PICES Session Q  
- Sustainability of aquaculture

Conveners: Raymond Bannister (Norway), Chris McKindsey (Canada),  
Pauline Kamermans (the Netherlands), and Katsuyuki Abo (PICES, Japan)

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Q:01     **Title:** Assessing control options for the invasive tunicate *Didemnum vexillum* in shellfish aquaculture: towards sustainability

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**Authors:** Thomas W. Therriault, Soleil E. Switzer, Anya Dunham, Katherine Rolheiser, and Christopher M. Pearce

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**Keywords:** invasive tunicates, *Didemnum vexillum*, shellfish aquaculture, control options, mitigation, Canada

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Q:02     **Title:** Spatial planning of aquaculture, Finnish Archipelago Sea as a case

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**Authors:** Timo Mäkinen, Jari Setälä, Markus Kankainen, Pekka Salmi, Ville Tarkki, and Timo Halonen

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**Keywords:** Baltic Sea, Rainbow trout farming, sustainability, spatial planning

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Q:03     **Title:** Life cycle environmental impacts of different fish farming alternatives in the Baltic Sea

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**Authors:** Juha Grönroos, Frans Silvenius, Markus Kankainen, Kimmo Silvo, and Timo Mäkinen

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**Keywords:** Baltic Sea, Rainbow trout, fish farming, life cycle assessment, spatial planning

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Q:04     **Withdrawn**

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Q:05     **Title:** Suitability mapping for European aquaculture

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**Authors:** Narangerel Davaasuren, Bas Bolman, Robbert Jak, and Sonia Corso

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**Keywords:** Suitability mapping, aquaculture, GIS

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Q:06     **Title:** Indicators of production capacity for bivalve shellfish in Dutch coastal waters

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**Authors:** Pauline Kamermans, Sven Inken, Jacco Kromkamp, Sairah Malkin,

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Roel Riegman, Tim Schellekens, Marnix van Stralen, and Aad Smaal

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**Keywords:** mussel culture, production capacity, indicators, bivalve shellfish

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Q:07 **Title:** Modelling the seasonal production and bioremediation potential of the kelp *Saccharina latissima* in integrated multi-trophic aquaculture (IMTA)

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**Authors:** Ole Jacob Broch *et al.*

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**Keywords:** *Saccharina latissima*, integrated multi-trophic aquaculture, mathematical model, bioremediation, marine biomass, bioenergy, environmental interactions, salmon farming, high resolution ecological model

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Q:08 **Title:** *Mytilus trossulus*: managing impact on sustainable mussel production in Scotland

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**Authors:** M. J. Gubbins, D. McLennan, D. Pendrey, M. Snow, I. M. Davies, J. Dias, D. Fraser, and G. Hermann

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**Keywords:** Mussel farming, *Mytilus trossulus*, Loch Etive, real-time PCR

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Q:09 **Title:** Environmental impacts of salmon farming in a Norwegian fjord: the importance of water currents

---

**Authors:** R. J. Bannister, T. B. Valdemarsen, P. K. Hansen, M. Holmer, and A. Ervik

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**Keywords:** Benthic fluxes, Sulfate reduction, Benthic faunal responses, sedimentation

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Q:10 **Title:** AkvaVis - decision support system for aquaculture management

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**Authors:** Øivind Strand *et al.*

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**Keywords:** Norway, spatial planning, GIS, site selection

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Q:11 **Title:** Achieving sustainable use of wrasses as cleanerfish on salmon farms

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**Authors:** A. B. Skiftesvik, S. Mortensen, T. Jørgensen, S. Løkkeborg, K. Nedreaas, C. M. F. Durif, A.-L. Agnalt, and R. M. Bjelland

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**Keywords:** wrasse; cleanerfish; salmon; salmon lice; aquaculture; sustainable fishery

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Q:12 **Title:** Fate of organic waste from Norwegian fish farming in deep areas

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**Authors:** P. K. Hansen, S. Aa. Olsen, R. Bannister, T. Kutti, O. B. Samuelsen, and A. Ervik

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**Keywords:** Norway, organic waste, deep sites, tracing

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Q:13 **Title:** Influence of waves and current speed on resuspension of fish farm

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	waste: Case study in Funningsfjørður, Faroe Islands.
	<b>Authors:</b> Gunnvør á Norði and Øystein Patursson
	<b>Keywords:</b> waves, resuspension, fish farm wastes, Faroe Islands
Q:14	<b>Title:</b> Biodeposition from farmed mussels on the benthic environment: in-situ mesocosms to evaluate dose-response effects
	<b>Authors:</b> Andrea M. Weise and Christopher W. McKindsey
	<b>Keywords:</b> aquaculture, dose-response, biodeposition, mussels, biogeochemical, benthic communities
Q:15	<b>Title:</b> Weather conditions may induce mortalities of oysters cultivated on the bottom : example in the bay of Quiberon (56, France)
	<b>Authors:</b> Jean-Yves Stanisiere <i>et al.</i>
	<b>Keywords:</b> mortality, climate, weather, stratification, <i>Crassostrea gigas</i>
Q:16	<b>Title:</b> Nutrient management for sustainable Nori ( <i>Pyropia yezoensis</i> ) aquaculture in the Seto Inland Sea, Japan
	<b>Authors:</b> Katsuyuki Abo, Kenji Tarutani, Kazuhiro Harada, and Kazutaka Miyahara
	<b>Keywords:</b> nutrient, seaweed, the Seto Inland Sea, water discharge
Q:17	<b>Title:</b> Developing land-based multi-trophic recirculating aquaculture concepts
	<b>Authors:</b> Stephanie Borchardt, Lars Christiansen, and Ronny Marquardt
	<b>Keywords:</b> integrated multi-trophic aquaculture, recirculating aquaculture, mass balance, land-based
Q:18	<b>Withdrawn</b>
Q:19	<b>Withdrawn</b>
Q:20	<b>Withdrawn</b>
Q:21	<b>Title:</b> Management strategies: impact on health in aquaculture
	<b>Authors:</b> David W. Verner-Jeffreys, Nick G.H. Taylor, Lars Asplin, Øivind Bergh, João G. Ferreira, Edmund Peeler, Anne D. Sandvik, Camille Saurel, and Katrine Soma
	<b>Keywords:</b> Coexist project, aquaculture, coastal fisheries, Marine Spatial Planning, coastal zone
Q:22	<b>Title:</b> Towards sustainable coexistence of aquaculture and fisheries in the

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Poster coastal zone

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**Authors:** Øivind Bergh *et al.*

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**Keywords:** Coexist project, aquaculture, coastal fisheries, Marine Spatial Planning, coastal zone

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Theme Session R

Mapping and modelling of planktonic ecosystems for better monitoring and future projections of responses to global change

[Conveners: Icarus Allen \(UK\), Johnny Johannessen \(Norway\), and Marcello Vichi \(Italy\)](#)

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R:01 **Title:** Estimation from space of organic and inorganic production by phytoplankton in the ice-free Arctic Ocean

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**Authors:** Dmitry Pozdnyakov, Dmitry Petrenko, Elizaveta Zabolotskikh, and Francois Counillon

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**Keywords:** remote sensing, phytoplankton, production of organic and inorganic carbon, Arctic Ocean

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R:02 **Title:** Mapping plankton biomass in the deep-ocean: an ecological provinces approach

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**Authors:** A. Bode *et al.*

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**Keywords:** plankton, biomass, deep-ocean, size-fractions, ecological provinces, Atlantic, Pacific, Indian

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R:03 **Title:** How the Subpolar gyre strength influences phytoplankton blooms dynamics in the North Atlantic

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**Authors:** A.S.A. Ferreira, M. R. Payne, B. MacKenzie, and A. W. Visser

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	<b>Keywords:</b> Phytoplankton blooms, subpolar gyre, North Atlantic
R:04	<b>Title:</b> Modeling interannual variability in the lower trophic levels in the North Atlantic
	<b>Authors:</b> Annette Samuelson, Ehouarn Simon, and Laurent Bertino
	<b>Keywords:</b> North Atlantic, interannual variability, modeling, phytoplankton
R:05	<b>Title:</b> Modelling climate impacts on acidification in the North and Baltic Sea with ECOSMO II
	<b>Authors:</b> Ute Daewel, Corinna Schrum, and Dhanya Pushpadas
	<b>Keywords:</b> North and Baltic Sea, ECOSMO, acidification, climate change
R:06	<b>Title:</b> Challenges in the integration of ecological indicators within a network of Atlantic Ocean observations
	<b>Authors:</b> Marie-Fanny Racault, Trevor Platt, Shubha Sathyendranath, Ertugrul Agirbas, Victor Martinez Vicente, and John Bruun
	<b>Keywords:</b> ecological indicators, earth observation, climate change, phytoplankton
R:07	<b>Title:</b> Effects of climate change on the <i>Calanus complex</i> in the Nordic Seas from individual based model simulations
	<b>Authors:</b> Geir Huse, Solfrid Hjøllø, Cecilie Broms, Morten D. Skogen, and Webjørn Melle
	<b>Keywords:</b> <i>Calanus finmarchicus</i> , <i>C. hyperboreus</i> , Nordic Seas, individual based modeling, life history strategy, climate change, genetic algorithm
R:08	<b>Withdrawn</b>
R:09	<b>Title:</b> Impact of resolved scales on global marine biogeochemical models
	<b>Authors:</b> William McKiver, Marcello Vichi, and Tomas Lovato
	<b>Keywords:</b> Atlantic ocean, resolution, biogeochemical, models
R:10	<b>Title:</b> New methodologies to build an integrated global plankton database: the GreenSeas Analysis Framework
	<b>Authors:</b> John Bruun <i>et al.</i>
	<b>Keywords:</b> Atlantic, integrated analysis, protocols
R:11	<b>Title:</b> Assessment of seasonal and decadal signals in the in-situ Atlantic plankton data

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**Authors:** John Bruun *et al.*

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**Keywords:** Atlantic, *in-situ*, historical, longer term

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R:12 **Title:** Satellite derived phytoplankton functional group estimates in the northeast US Continental Shelf Large Marine Ecosystem

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**Authors:** Kimberly Hyde, Antonio Mannino, Xiaoju Pan, Margaret Mulholland, Michael Fogarty, Christopher Melrose, and Jonathan Hare

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**Keywords:** phytoplankton functional groups, primary production, diatoms, ocean color remote sensing

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R:13 **Title:** Climate-driven changes in plankton trophic dynamics

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**Authors:** Stefano Ciavatta, Claudia Halsband, Claire Widdicombe, Tim Smyth, Elaine Fileman, Angus Atkinson, and . Icarus Allen

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**Keywords:** essential climate variables, plankton trophic dynamics, Western Channel Observatory

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R:14 **Title:** Modelling the beginning and end of a planktonic life stage – the distribution of cod eggs and settled juveniles in the North Sea

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**Authors:** Hannes Höffle and Peter Munk

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**Keywords:** fish eggs, juvenile fish, cod, North Sea

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R:15 **Title:** Planktonic ecosystem response to climate warming, signified by changes in abundance of krill and amphipods in Kongsfjorden, Svalbard  
Poster

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**Authors:** Jon Rønning, Padmini Dalpadado, and Haakon Hop

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**Keywords:** Key words: macro-zooplankton, Kongsfjord, Arctic fjord systems, climate effects

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R:16 **Withdrawn**

Poster

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R:17 **Title:** Intercomparison of zooplankton (net) sampling systems used in mapping zooplankton.  
Poster

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**Authors:** Hein Rune Skjoldal, Peter H. Wiebe, Lutz Postel, Tor Knutsen, Stein Kaartvedt, and Doug Sameoto

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**Keywords:** zooplankton; plankton nets; net intercomparison; towing speed

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R:18 **Title:** Nitrogen regeneration and assimilation rates in the euphotic zone of the Southern Benguela upwelling system  
Poster

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	<b>Authors:</b> Raissa Philibert, Howard Waldron, and Darren Clark
	<b>Keywords:</b> Southern Benguela; Nitrogen dynamics; Nitrification

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R:19 Poster	<b>Title:</b> Towards a reanalysis of the North Atlantic and Arctic Ocean biology: a multi-year assimilation of satellite ocean color data with the deterministic ensemble Kalman filter
	<b>Authors:</b> Ehouarn Simon, Annette Samuelsen, and Laurent Bertino
	<b>Keywords:</b> data assimilation, reanalysis, North Atlantic/Arctic Ocean

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R:20 Poster	<b>Title:</b> Copepods Monitoring in the southern Moroccan atlantic ocean : 21°N to 26°N
	<b>Authors:</b> Soukaina Zizah, Omar Ettahiri, Siham Salah, Ahmed Yahyaoui, and Mohammed Ramdani
	<b>Keywords:</b> Chlorophyll, Copepods, Biomass, Pelagic ecosystem, South Moroccan Atlantic

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R:21 Poster	<b>Title:</b> Planktonic ecosystem model in the Japan Sea based on an operational ocean forecast system
	<b>Authors:</b> Tatsuro Watanabe and Katsumi Takayama
	<b>Keywords:</b> Japan Sea, NEMURO, operational ocean forecast system

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R:22 Poster	<b>Title:</b> Applications of Box Jenkins Transfer function methods to identify seasonal and longer term trends in Marine time series
	<b>Authors:</b> John Bruun; Paul Somerfield, and Icarus Allen
	<b>Keywords:</b> Atlantic, time series analysis, transfer function, coherence

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R:23 Poster	<b>Title:</b> Global plankton data and marine ecosystem modelling - GreenSeas
	<b>Authors:</b> The Green seas consortium
	<b>Keywords:</b> plankton data, global, numerical models, environmental indicators

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R:24 Poster	<b>Title:</b> Atlantic zone monitoring program zooplankton atlas for the Northwest Atlantic
	<b>Authors:</b> Catherine L. Johnson, Pierre Pepin, Michel Harvey, and Benoit Casault
	<b>Keywords:</b> Northwest Atlantic, zooplankton, spatial distribution, biogeography

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- R:25     **Title:** Primary production in coastal waters off Mid-Norway  
Poster
- 
- Authors:** Ingrid H. Ellingsen, Ole Jacob Broch, Øyvind Knutsen, Johanne Arff,  
                  Thomas A. McClimans, and Dag Slagstad
- 
- Keywords:** coupled models, primary production, upwelling
- 
- R:26     **Title:** Planktonic copepods structures and the impact of environmental  
Poster    parameters "Northwest African upwelling area"
- 
- Authors:** Siham Salah *et al.*
- 
- Keywords:** Cape Ghir Filament, Copepods, Seasonal variation, Physico-  
                  chemical parameters and Nutrients
- 
- R:27     **Title:** The Integrated Ecosystems Assessment Initiative – enabling the  
Poster    assessment of impacts on Large Marine Ecosystems: informatics to the  
          forefront of science based decision support
- 
- Authors:** Peter Fox, Andrew Maffei, Massimo DiStefano, Suzanne Lawrence,  
                  Stace Beaulieu, and Cynthia Chandler
- 
- Keywords:** data science, xinformatics, and escience
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