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Theme Session A

Atlantic redfish and Pacific rockfish: Comparing biology, ecology, assessment and management strategies for *Sebastes* spp (Joint ICES/PICES theme session)

Conveners: Benjamin Planque (Norway), Paul Spencer (USA), Christoph Stransky (Germany), and Steve Cadrin (USA)

Papers/Oral Presentations

[A:01](#) **Title:** Modeling the effect of climate variability on rockfish growth rates in the North Pacific: Empirical evidence for biophysical coupling

Authors: Thomas E. Helser, Bryan A. Black, and Vanessa R. von Biela

Keywords: climate change, fish growth, Bayesian inference, North Pacific

A:02 **Title:** Biology and fishery of red fish, *Sebastes oculatus* around the Falkland Islands (Southwest Atlantic)

Authors: Alexander Arkhipkin and Vladimir Laptikhovsky

Keywords: Patagonian red fish, *Sebastes oculatus*, Falkland Islands, ecosystem

[A:03](#) **Title:** The influence of maternal age on fishery harvest reference points

Authors: Paul D. Spencer, Sarah B. M. Kraak, and Edward A. Trippel

Keywords: maternal effects, rockfish, fishing reference points

[A:04](#) **Title:** Feeding of redfish *Sebastes mentella* in the Irminger Sea and adjacent waters– what data on diet indicate?

Authors: A. V. Dolgov, V. I. Popov, and A. Yu Rolsky

Keywords: biotope, diet, feeding, Irminger Sea, redfish

A:05 **Title:** Studies of biology and history of fisheries on *Sebastes mentella* in the Barents Sea and adjacent waters as a basis for future development of technical regulations for this stock

Author: Konstantin V. Drevetnyak

Keywords: Barents Sea, biology, fishery, management, redfish

[A:06](#) **Title:** Hybridization of redfish (*Genus Sebastes*) in the Irminger Sea and its significance for studies of population structure of beaked redfish *S. mentella*

Authors: Valentina S. Artamonova, Alexander A. Makhrov, Alexey Yu. Rolskiy, Yuri I. Bakay, and Victor I. Popov

Keywords: hybridization, interspecific population structure, *S. mentella*, Irminger Sea

A.07 **Withdrawn**

[A:08](#) **Title:** Feeding ecology of juvenile rockfishes off Oregon and Washington: insights into life history patterns based on stomach content and stable isotope analyses

Authors: Keith L. Bosley, Richard D. Brodeur, Todd W. Miller, Katelyn M. Bosley, Ahna Van Gaest, and Anna Elz

Keywords: feeding ecology, juvenile rockfishes, stomach analysis, carbon and nitrogen stable isotopes

[A:09](#) **Title:** Stochastic population dynamics of Beaked Redfish (*S. mentella*)

Authors: Eirin Bjørkvoll, Vidar Grøtan, Sondre Aanes, Bernt-Erik Sæther, Steinar Engen, and Ronny Aanes.

Keywords: none

A:10 **Withdrawn**

[A:11](#) **Title:** Assessment and status of the US Gulf of Maine-Georges Bank Acadian redfish stock

Authors: Timothy J. Miller and Steven X. Cadrin

Keywords: *Sebastes*, redfish, stock assessment

A:12 **Title:** The red- and rockfishes around the world: a history of divergence

Author: Fran Saborido-Rey

Keywords: *Sebastes*, rockfish, redfish

A:13 **Title:** Evaluating the role of predation by harbour seals and sea lions in the lack of recovery of B.C. inside waters yelloweye rockfish

Authors: M. K. McAllister and K. L. Yamanaka

Keywords: Rockfish, pinniped predation, stock recovery, Bayes factors

[A:14](#) **Title:** Multidecadal growth-increment chronologies for North Pacific and North Atlantic rockfish species

Authors: Bryan Black, Isaac Schroeder, William Sydeman, and Steven Bograd

Keywords: climate, rockfish, North Atlantic, North Pacific

A:15 **Title:** Monitoring beaked redfish in the North Atlantic, current challenges and future prospects

Authors: Benjamin Planque, Kristján Kristinsson, Alexey Astakhov, Yuri Bakay, Matthias Bernreuther, Eckhard Bethke, Konstantin Drevetnyak, Kjell Nedreaas, Jakup Reinert, Alexey Rolskiy, Thorsteinn Sigurdsson, and Christoph Stransky

Keywords: *Sebastes mentella*, survey design, trawling, hydroacoustics, tagging, assessment, management

A:16 **Title:** Population structure of *Sebastes mentella* in the Norwegian Sea inferred from microsatellites

Authors: Torild Johansen, Tuula Skarstein, Jon-Ivar Westgaard, and Benjamin Planque

Keywords: Norwegian Sea, Barents Sea, beaked redfish, stock structure

A:17 **Title:** Recruitment of beaked redfish (*Sebastes mentella*) from the Greenland shelf into the pelagic of the Irminger Sea: Have we located the origin?

Authors: Matthias Bernreuther, Heino Fock, and Christoph Stransky

Keywords: Beaked redfish, recruitment, length-based, Greenland shelf, Irminger Sea

A:18 **Title:** Growth and production of Pacific ocean perch (*Sebastes alutus*) in nursery habitats of the Gulf of Alaska

Authors: Christopher N. Rooper, Jennifer L. Boldt, Sonia Batten, and Christopher Gburski

Keywords: Alaska, *Sebastes*, recruitment prediction, bioenergetics

[A:19](#) **Title:** Review of the fishery, biological research, assessment and management of Golden redfish (*Sebastes marinus*) in Icelandic waters

Authors: Kristjan Kristinsson and Thorsteinn Sigurdsson

Keywords: *Sebastes marinus*, fishery, assessment, management, advice, protection

[A:20](#) **Title:** Population characteristics of *Helicolenus dactylopterus* in the Azores.

Authors: R. M. Higgins, A. I. Ferreira, and E. Isidro.

Keywords: *Helicolenus dactylopterus*, otolith, trace element, age, growth model

A:21 **Withdrawn**

A:22 **Title:** Refinements to the exponential model index of inshore rockfish abundance based on hook timers and ROV observations of longlines

Authors: Shannon G. Obradovich and Murdoch K. McAllister

Keywords: rockfish, hook competition, exponential model

[A:23](#) **Title:** Geographical and Temporal Variation of Redfish (*Sebastes mentella*) Microsatellite DNA in the Irminger Sea and adjacent waters.

Authors: Daria A. Zelenina, Dmitry M. Schepetov, Alexander A. Volkov, Anna E. Barmintseva, Sergey P. Melnikov, and Nikolai S. Mugue

Keywords: the Irminger Sea, *Sebastes mentella*, genetic structure

A:24 **Title:** Application of an adaptive acoustic/trawl survey to reduce uncertainty in rockfish biomass estimates

Authors: Dana H. Hanselman, Paul D. Spencer, Denise R. McKelvey, and Michael Martin

Keywords: *Sebastes*, sampling design, trawl survey, acoustics, rockfish

[A:25](#) **Title:** Biology of Acadian redfish and implications for optimum yield in a mixed-species fishery

Author: Steven X. Cadrin

Keywords: redfish, *Sebastes fasciatus*, fishery management

Posters

[A:26](#) **Title:** Feeding of three species from genus *Sebastes* in the Barents Sea

Authors: A. V. Dolgov and K. V. Drevetnyak

Keywords: Barents Sea, diet, feeding, redfish

A:27 **Withdrawn**

[A:28](#) **Title:** Discrimination of the redfish (*Sebastes mentella*) stock components in the Irminger sea and adjacent waters based on meristics, morphometry and biological characteristics

Authors: K. Trella, M. Podolska, K. Nedreaas, and J. Janusz

Keywords: *Sebastes mentella*, pelagic redfish, Irminger Sea, stock components, morphology

A:29 **Title:** Cohort-specific mortality and growth-selective survival of juvenile black rockfish *Sebastes cheni*: does habitat complexity decrease predation?

Authors: Yasuhiro Kamimura and Jun Shoji

Keywords: Seto Inland Sea in Japan, *Sebastes cheni*, macroalgae bed, survival

A:30 **Title:** SNPfisk: Use of Single Nucleotide Polymorphisms to improve fisheries management

Authors: Torild Johansen, Benjamin Planque, Lorenz Hauser, Steve Cadrin, Halvor Knutsen, Matthew Kent, Jon-Ivar Westgaard, and Sigbjørn Lien

Keywords: North Atlantic, redfish, Saithe, Greenland halibut, stock identification

A:31 **Title:** Documenting the collective experience in the assessment and provision of management advice for data-poor *Sebastes* species on the Canadian Atlantic and Pacific coasts

Authors: Murdoch K. McAllister and Daniel Duplisea

Keywords: *Sebastes* species, data poor, Bayesian state-space surplus production, threatened and endangered

A:32 **Title:** Cross-dating in a deep-sea species from Azores

Authors: A. I. Ferreira, R. M. Higgins, and E. Isidro

Keywords: *Helicolenus dactylopterus*; Sclerochronology; ageing; cross-dating; master chronology; age validation

A:33 **Title:** Depth goes the distance regarding *Sebastes mentella* genetic population structure across the North Atlantic

Authors: Alexandra Valentin, Cathrin Bunke, Don Power, Jochen H. Trautner, and Jean-Marie Sévigny

Keywords: North Atlantic, *Sebastes mentella*, population structure, depth

A:34 **Withdrawn**

A:35 **Title:** Species composition of historic recruitment pulses in the St. Lawrence system as revealed by the genetic analyses of archived otoliths

Authors: Alexandra Valentin, Don Power, and Jean-Marie Sévigny

Keywords: Atlantic Canada, archived otoliths, genetics, recruitment

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Theme Session B

Ecological response of phytoplankton and other microbes to global change processes in ocean basins, shelf seas and coastal zones

Conveners: William Li (Canada), Xosé Anxelu G. Morán (Spain), and Katja Meffies (Germany)

Papers/Oral Presentations

B:01 **Withdrawn**

[B:02](#) **Title:** Towards an ecological status report for phytoplankton and microbial plankton in the North Atlantic

Authors: William K. W. Li, Xosé Anxelu G. Morán, and Todd D. O'Brien

Keywords: phytoplankton, microbial plankton, ecological status, WGPME

[B:03](#) **Title:** Enrichment of highly competitive omnivorous cercozoan nanoflagellates from coastal Baltic Sea waters

Authors: Kasia Piwosz and Jakob Pernthaler

Keywords: cercozoa, omnivory, intra-guild predation, Baltic Sea

[B:04](#) **Title:** Coastal bacterioplankton in the southern Bay of Biscay: changes in abundance and cell size at seasonal and interannual scales

Authors: Xosé Anxelu G. Morán, Laura Díaz-Pérez, Enrique Nogueira, and Antonio Bode

Keywords: Bacterioplankton, time series, ocean warming, North Atlantic

B:05 **Title:** Data analysis and archival mechanisms at the AWI: Examples from the Helgoland Roads long-term plankton monitoring site

Author: Alexandra Kraberg, Marja Schlüter, and Karen H. Wiltshire

Keywords: none

[B:06](#) **Title:** Effect of experimental additions of Black Carbon on Nutrients elements and Planktonic marine communities

Authors: Aurore Trottet, Xavier Mari, Eric Fouilland, Jean-Pascal Torretton, Thierry Bouvier, Corinne Bouvier, Chu Van Thuoc, Cao Thi Thu Trang, and Nghiem Ngoc Min

Keywords: Black Carbon, Bacterio-/Phyto-plankton, Nutrient, Halong Bay

[B:07](#) **Title:** Effects of sewage effluent diversion on nutrient and phytoplankton dynamics in French Mediterranean lagoons: results from a ten year survey

Authors: B. Bec, N. Malet, L. Dubroca, D. Munaron, A. Vaquer, and Y. Collos

Keywords: Mediterranean, lagoons, phytoplankton, water quality

improvement

B:08 **Title:** Observed changes in the marine phytoplankton community in the north east of Scotland over the last decade

Authors: Eileen Bresnan, Sarah L. Hughes, Sheila Fraser, Ana-Louisa Amorim, Kerry Smith, Pam Walsham, Lynda Webster, Barbara Berx, George Slessler, Jens Rasmussen, and Steve Hay

Keywords: Phytoplankton, spring bloom, dinoflagellates, Northern North Sea

[B:09](#) **Title:** Comparison of temporal variation of chlorophyll-*a*, environmental parameter in the south-eastern Black Sea coast during the periods of 1993–1994 and 2001–2002

Authors: Ali Muzaffer Feyzioglu, and Ulgen Kopuz

Keywords: phytoplankton, Chlorophyll-*a*, Black Sea

B:10 **Title:** Phytoplankton phenology in the Northwest Atlantic: observation and modeling

Author: Rubao Ji

Keywords: phytoplankton; phenology; observation; modeling; Northwest Atlantic

B:11 **Withdrawn**

[B:12](#) **Title:** Changes in chlorophyll-*a* concentrations in the Baltic Proper

Authors: Anetta Ameryk, Mariusz Zalewski, and Marianna Pastuszek

Keywords: chlorophyll-*a*, temperature, nutrients, Baltic Proper

B:13 **Withdrawn**

B:14 **Title:** Ecological changes in the Iceland Sea

Authors: Hafsteinn G. Gudfinnsson and Sólveig R. Ólafsdóttir

Keywords: Iceland Sea, nutrients, phytoplankton biomass, primary production

[B:15](#) **Title:** Use of phytoplankton for the monitoring and assessment of ecological status of the Russian parts of the Curonian and Vistula Lagoons (Baltic Sea)

Author: Olga Dmitrieva

Keywords: indicator species, Curonian, Vistula Lagoons, phytoplankton, ecological quality assessment, Water Framework Directive

[B:16](#) **Title:** Heterotrophic nanoflagellate and bacteria dynamics in South Eastern Black Sea during late Spring 2010

Authors: Ulgen Kopuz, Ali Muzaffer Feyzioglu, and Ertugrul Agirbas

Keywords: heterotrophic bacteria, heterotrophic nanoflagellate, Black Sea

[B:17](#) **Title:** Mesoscale variability of chlorophyll-*a* in North Sea coastal waters

Authors: Anouk N. Blauw, Elisa Benincà, Remi W.P.M. Laane, Naomi Greenwood, and Jef Huisman

Keywords: Chlorophyll-*a*, variability, North Sea

B:18 **Title:** Microbial dynamics and response to a changing polar ocean climate

Authors: Richard. B. Rivkin, Kimberley Keats, and Michelle Hale

Keywords: bacteria, biogeochemistry, climate, food webs, microbial dynamics, nutrients

[B:19](#) **Title:** Factors controlling the onset of spring blooms in the German Bight 2002–2005: light, wind and stratification

Authors: Tian Tian, Jian Su, Goetz Floeser, Karen Wiltshire, and Kai Wirtz

Keywords: spring bloom, turbidity, tidal front, wind, nearshore-offshore gradient, Helgoland Roads

Posters

[B:20](#) **Title:** Changes in the phytoplankton of the Vyborg Bay (eastern Gulf of Finland) in the area of port Vysotsk construction

Author: Olga B. Maximova

Keywords: Phytoplankton, eutrophication, hydroengineering works, Baltic Sea.

[B:21](#) **Title:** Semi – decade dynamic of the summer phytoplankton community from the Southern Baltic Proper.

Authors: Janina Kownacka and Sławomira Gromisz

Keywords: Southern Baltic, phytoplankton, biomass, summer community, clustering analysis

B:22 **Title:** Chromatic adaptation in three Baltic picocyanobacteria of the genus *Synechococcus*

Author: Sabina Jodłowska

Keywords: Baltic, chromatic adaptation, picocyanobacteria, *Synechococcus*

B:23 **Title:** A study of toxic effect of five ionic liquids on Baltic microalgae

Authors: Małgorzata Chobot and Adam Latała

Keywords: ionic liquids, Baltic microalgae, cyanobacteria, growth inhibition toxicity tests

[B:24](#) **Title:** The toxic effect of nanosilver on Baltic green algae *Chlorella vulgaris* and cyanobacteria *Synechococcus* sp.

Authors: Marta Brucka and Adam Latała

Keywords: Baltic microalgae, chlorofil a fluorescence, cyanobacteria, nanosilver

B:25 **Title:** Temperature and Light effects on photosynthesis and respiration –



implications for phytoplankton survival during deep convection

Authors: Bettina Walter, Janna Peters, Justus van Beusekom, and Michael St. John

Keywords: deep convection, North Atlantic, photosynthesis and respiration, temperature

B:26 **Title:** Shift in the dominant cyanobacteria species complex in the Curonian Lagoon, Baltic Sea in 2000s

Author: Evgenia Lange

Keywords: coastal lagoon, cyanobacteria, *Planktothrix agardhii*, algae bloom, the Baltic Sea

B:27 **Withdrawn**

Theme Session C
Harmful Algal Blooms in the Baltic Sea

Conveners: Bengt Karlson (Sweden) and Emil Vahtera (USA)

Papers/Oral Presentations

- [C:01](#) **Title:** Toxic effect harmful algae on zooplankton in the Curonian Lagoon (the Baltic Sea)
-
- Authors:** Anna Semenova and Olga Dmitrieva
-
- Keywords:** Curonian Lagoon, zooplankton, mortality, *Microcystis* spp., toxic effect
-
- [C:02](#) **Title:** The effects of 2010 Vistula River spring flood in the Gulf of Gdańsk measured by Ferry Box system on Gdynia-Karlskrona ferry
-
- Authors:** Elżbieta Łysiak-Pastuszek, Wojciech Kraśniewski, Katarzyna Sutryk, Hanna Mazur-Marzec, Łukasz Lewandowski, and Włodzimierz Krzymiński
-
- Keywords:** Gulf of Gdańsk (Baltic Sea), Ferry Box, phytoplankton bloom, algal toxins
-
- C:03 **Title:** The extensive bloom of the alternate stage *Chrysochromulina polylepis* in the Baltic Sea during winter and spring 2007–2008
-
- Authors:** Markus Majaneva, Janne-Markus Rintala, Susanna Hajdu, Seija Hällfors, Guy Hällfors, Ann-Turi Skjevik, Slawomira Gromisz, Janina Kownacka, Susanne Busch and Jaanika Blomster
-
- Keywords:** *Chrysochromulina polylepis* bloom; *Chrysochromulina polylepis* alternate stage; winter; 18S rDNA; Baltic Sea
-
- C:04 **Title:** Effects of increased temperature and pCO₂ on growth and toxicity of a northern Baltic *Alexandrium ostenfeldii* population
-
- Authors:** Anke Kremp, Anna Godhe, Jenny Egardt, Sam Dupont, Sanna Suikkanen, Silvia Casabianca, and Antonella Penna
-
- Keywords:** *Alexandrium ostenfeldii*, climate change, phenotypic variability, toxicity
-
- C:05 **Title:** PST production of the bloom-forming dinoflagellate *Alexandrium ostenfeldii* in the Baltic Sea and bioaccumulation of the toxins
-
- Authors:** Sanna Suikkanen, Outi Setälä, Sari Lehtinen, Päivi Hakanen, Harri Kankaanpää, and Anke Kremp
-
- Keywords:** *Alexandrium ostenfeldii*, dinoflagellates, PSP, Baltic Sea
-
- [C:06](#) **Title:** Cyanobacterial blooms, cyanotoxin production and its bioaccumulation in the Southern Baltic Sea
-

Authors: Katarzyna Sutryk, Monika Błońska, Agnieszka Hebel, Natalia Hohlfeld, Iwona Jasser, Justyna Kobos, and Hanna Mazur-Marzec

Keywords: Southern Baltic Sea, cyanobacteria, nodularin, chemotaxonomy

C:07 **Title:** Genetic structure of the toxic dinoflagellate *Alexandrium ostenfeldii* in the Baltic Sea

Authors: P. Tahvanainen, R. Figueroa, S. Nagai, J. Blomster, S. Suikkanen, P. Hakanen, and A. Kremp

Keywords: *Alexandrium ostenfeldii*, AFLP, genetic structure

[C:08](#) **Title:** Eutrophication and harmful algal blooms in the Curonian Lagoon of the Baltic Sea

Author: Sergey Aleksandrov

Keywords: eutrophication, climate change, hyperblooms, Curonian Lagoon

C:09 **Title:** Overview of Harmful Algal Booms in the Baltic Sea

Author: Bengt Karlson and Emil Vahtera

Keywords: phytoplankton, harmful algae, Baltic Sea

Posters

C:10 **Title:** Cyanobacterial neurotoxins in the ecosystem of the Gulf of Gdańsk (Baltic Proper)

Authors: Agata Błaszcyk and Hanna Mazur-Marzec

Keywords: anatoxin-a, β -N-methylamino-L-alanine (BMAA), cyanobacteria, Gulf of Gdańsk

C:11 **Title:** The role of cyanobacterial peptides in the interactions among microorganisms in the Southern Baltic

Authors: Anna Toruńska, Monika Błońska, Ewa Kotlarska, Przemysław Kowal, and Hanna Mazur-Marzec

Keywords: cyanobacteria, Baltic bacteria, nodularin, biodegradation

[C:12](#) **Title:** Monitoring system of blue-green algae in the coastal zone applying the *in-situ* measurement

Authors: Katarzyna Bucholc, Małgorzata Szymczak-Żyła, Ludwik Lubecki, Przemysław Makuch, and Grażyna Kowalewska

Keywords: *in-situ* monitoring, blue-green algae, blooms, phycocyanin

[C:13](#) **Title:** Histopathological changes in the liver of the round goby (*Neogobius melanostomus*) after treating with nodularin extracts

Authors: Ilona Złoch, Marta Jaroszevska, and Mariusz R. Sapota

Keywords: round goby, nodularin, Gulf of Gdańsk, histopathological changes

C:14 **Title:** Harmful algal blooms on inshore fish nursery grounds of the Gulf of

Gdansk

Authors: Anna J. Pawelec, Justyna Kobos, and Mariusz R. Sapota

Keywords: shallow waters, fish, abundance, harmful algal blooms

[C:15](#) **Title:** Allelopathic effects of the cyanobacteria *Nodularia spumigena* on green algae *Chlorella vulgaris* and *Oocystis submarina*

Authors: Sylwia Śliwińska and Adam Latała

Keywords: allelopathy, cyanobacteria, green algae, Baltic Sea

[C:16](#) **Title:** Will the Baltic Proper gets more toxic with less nitrogen? A multifactorial study on the production of the cyanotoxin nodularin

Authors: A. Wulff, B. Pattanaik, M. Y. Roleda, K. Garde, and M. Mohlin

Keywords: Baltic Sea; Cyanobacteria; *Nodularia spumigena*; Nodularin; Nutrient; UV radiation

[C:17](#) **Title:** Monitoring of Harmful Algal Blooms in the Baltic Sea using a combination of ship sampling and remote sensing

Authors: Bengt Karlson, Cia Hultcrantz, Marie Johansen, Martin Hansson, Ann-Turi Skjevik, and Jörgen Öberg

Keywords: phytoplankton, harmful algae, Baltic Sea, FerryBox, monitoring, remote sensing

[C:18](#) **Title:** Cyanobacterial blooms and fish, invertebrate and bird kills in the Curonian Lagoon, Baltic Sea

Authors: Elena Ezhova and Evgenia Lange

Keywords: The Curonian Lagoon, cyanobacterial toxins, fish kills, invertebrate kills

[C:19](#) **Title:** The use of *in situ* phycocyanin fluorescence as a proxy for estimating cyanobacteria biomass in the Baltic Sea

Authors: Kevin Vikström, Angela Wulff, Seppo Kaitala, Jukka Seppälä, and Bengt Karlson

Keywords: phytoplankton, cyanobacteria, blue green algae, phycocyanin, fluorescence, Baltic Sea, FerryBox, monitoring

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Theme Session D

Linking the history to the present: understanding the history of fish, fisheries and management

Conveners: Andy Rosenberg (USA), Max Cardinale (Sweden), and Bo Poulsen (Denmark)

Papers/Oral Presentations

D:01 **Title:** Regional depletion of haddock and pollack during the last century in the Kattegat-Skagerrak

Authors: Massimiliano Cardinale, Henrik Svedäng, Valerio Bartolino, Luigi Maiorano, Michele Casini, and Hans Linderholm

Keywords: historical data; Atlantic gadoids; spatial stock structure; regional depletion

[D:02](#) **Title:** Movement modeling in stock assessment: From Beverton and Holt and back again

Authors: Daniel Goethel and Steven X. Cadrin

Keywords: Beverton and Holt, movement models, tagging models, tag-integrated models

[D:03](#) **Title:** The post-war evolution of the Norwegian longline fishery for ling and tusk

Authors: Kristin Helle and Michael Pennington

Keywords: Norwegian longline fleet, ling, tusk, autolines

D:04 **Title:** Long term trends in population dynamics of NW Ireland herring revealed by data archaeology

Author: Maurice Clarke

Keywords: herring, northwest Ireland, catch-at-age, productivity, historical analyses

D:05 **Title:** The relative roles of fishing and biological productivity in fish stock dynamics: history can help to understand the present and design the future

Author: Margit Eero

Keywords: fish biomass, stock productivity, fishing mortality, North Atlantic

[D:06](#) **Title:** Cod behaves in mysterious ways: shifting distribution in the North Sea during the last century

Authors: Georg H. Engelhard, David A. Righton, Tina K. Kerby, and John K. Pinnegar

Keywords: cod, distribution shift, climate, North Sea

D:07	<p>Title: Herring in the Celtic Sea: a history of life on the edge</p> <hr/> <p>Authors: Deirdre Lynch, Jim Wilson, and Maurice Clarke</p> <hr/> <p>Keywords: herring, Celtic Sea, size-at-age, condition, historical analyses</p>
D:08	<p>Title: Investigating key drivers of trends in Atlantic herring biology using over a half-century of highly resolved catch data</p> <hr/> <p>Authors: Clémentine Harma, Cólín Minto, Maurice Clarke, and Deirdre Brophy</p> <hr/> <p>Keywords: Ireland, herring, time-series analysis</p>
D:09	<p>Title: Long-term (1920–2010) changes of the Polish long-distance and the Baltic Sea fishery structure – an effect of mutual concurrence or a decree of the fate?</p> <hr/> <p>Authors: Włodzimierz Grygiel, Kordian Trella, and Emil Kuzebski</p> <hr/> <p>Keywords: long-distance and Baltic fishery, Poland</p>
D:10	<p>Title: The history of exploitation of NE Atlantic fish stocks in the past half century highlights the need to protect immature fish</p> <hr/> <p>Authors: Paraskevas Vasilakopoulos, Finbarr G. O'Neill, and C. Tara Marshall</p> <hr/> <p>Keywords: exploitation rate, exploitation pattern, meta-analysis, NE Atlantic</p>
D:11	<p>Title: Long-term (1781–2010) Eel Fishery into the Coastal Lagoon of Comacchio (Northern Italy) and use of a new Index for Fish Evaluation</p> <hr/> <p>Authors: Federico Brunelli and Elena Fabbri</p> <hr/> <p>Keywords: eel fishery, <i>Anguilla anguilla</i>, coastal lagoon, Northern Italy</p>
D:12	<p>Title: Changes in marine communities of the Northern Adriatic Sea (Mediterranean) over the past six decades (1945–2008): insights from fisheries landings</p> <hr/> <p>Authors: Tomaso Fortibuoni, Simone Libralato, Cosimo Solidoro, Otello Giovanardi, and Saša Raicevich</p> <hr/> <p>Keywords: Landings, trophodynamic indicators, Northern Adriatic Sea, unbalanced fishery</p>
D:13	<p>Title: Historical spatiotemporal dynamics of eastern North Sea cod</p> <hr/> <p>Authors: Valerio Bartolino, Massimiliano Cardinale, Hans W. Linderholm, and Anders Grimwall</p> <hr/> <p>Keywords: historical spatial distribution, scale, cod, eastern North Sea</p>
D:14	<p>Withdrawn</p>
D:15	<p>Title: Lost migratory forage species and consequences on the function and structure of ecosystems</p> <hr/> <p>Authors: A. Jordaan, C. J. Hall, M. A. Nuttall, R. M. Cerrato, and M. G. Frisk</p> <hr/> <p>Keywords: Historical ecology, river herring, menhaden, ecological connectivity</p>

Posters

[D:16](#) **Title:** Great Britain's role in North Sea demersal fisheries: a long-term perspective over the past century

Authors: Tina K. Kerby, William W.L. Cheung, and Georg H. Engelhard

Keywords: historical perspective, demersal fisheries, Common Fisheries Policy, North Sea

[D:17](#) **Title:** Long term dynamics of river lamprey fishery in Latvia

Authors: Jānis Birzaks, Kaspars Abersons, and Tatjana Baranova

Keywords: river lamprey, landing dynamics, Latvia

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Theme Session E

Upwelling events, coastal-offshore exchange and links to biogeochemical processes in various parts of the oceans

Conveners: Kai Myrberg (Finland), Andreas Lehmann (Germany), and Tom Anderson (UK)

Papers/Oral presentations

E:01 **Title:** Sub Antarctic and temperate marine fauna links with oceanographic fronts on the Patagonian Shelf break and slope (Southwest Atlantic)

Authors: A. Arkhipkin, P. Brickle, and V. Laptikhovsky

Keywords: Falkland Current, frontal zones, Patagonian Shelf, distribution, Subantarctic and temperate marine fauna

E:02 **Title:** A statistical approach on upwelling in the Baltic Sea based on the analysis of satellite data for 1990–2009

Authors: Andreas Lehmann, Kai Myrberg, and Katharina Höflich

Keywords: satellite data, upwelling, statistics, Baltic Sea

E:03 **Title:** The Orange Banks: topographic setting and mid-shelf hydrographic conditions at the northern extremity of the southern Benguela upwelling regime.

Authors: Marek Ostrowski Frank Shillington, and Marek Lipinski

Keywords: Upwelling, coastal jet, topographic steering, hypoxia, retention, ADCP, ROMs, Benguela

E:04 **Title:** Wind curl driven upwelling, the example of the Benguela system

Authors: Wolfgang Fennel

Keywords: Upwelling, Kelvin waves, wind curl, Benguela upwelling system

[E:05](#) **Title:** Modeling the inter-annual variability of ocean circulation and marine ecosystem in the Canarian upwelling system

Authors: Vladimir Ryabchenko, Victor Gorchakov, Nikolay Diansky, Anton Dvornikov, and Svetlana Pugalova

Keywords: circulation, ecosystem, Canarian upwelling

[E:06](#) **Title:** The influence of meteorological variation on the upwelling system off eastern Hainan during summer 2007–2008

Authors: J. Su J. Wang T. Pohlmann D. and F. Xu

Keywords: none

[E:07](#) **Title:** Mesofauna inhabiting algae in the tidal zone of the Barents Sea

Authors: Izabella Olejniczak, Pawel Boniecki, Anita Kaliszewicz, and Ninel Panteleeva

Keywords: Collembola, Acarina, algae, Barents Sea

E:09 **Title:** Fluxes of particulate organic carbon and nitrogen in the Gulf of Gdansk

Authors: Dorota Burska, Dorota Pryputniewicz-Flis, and Witek Zbigniew

Keywords: SPM, POC, PON, flux

Posters

E:08 **Title:** Time persistence of thermal fronts in the surface waters of the southern Baltic Sea

Authors: Lena Szymanek and Katarzyna Bradtke

Keywords: southern Baltic Sea, thermal front, stability, SST, upwelling

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Theme Session F Applications of optical and image based technologies in the ecosystem approach to fisheries management

Conveners: Eirik Tenningen (Norway) and Bill Michaels (USA)

Papers/Oral Presentations

- F:01 **Title:** Using optical flow techniques on acoustic multi beam data
-
- Authors:** Nils Olav Handegard, Kevin Boswell, Simon Leblanc, Dag Tjøstheim, and Iain Couzin
-
- Keywords:** optical flow, multi beam sonar, collective behaviour, fish behaviour
-
- F:02 **Withdrawn**
-
- [F:03](#) **Title:** Towed underwater television towards the quantification of Norway lobster, squat lobsters and sea pens in the Adriatic Sea
-
- Authors:** E. B. Morello, M. Martinelli, I. Isajlovic, A. Belardinelli, A. Lucchetti, R. J. A. Atkinson, A. Santojanni, N. Vrgoc, and E. Arneri
-
- Keywords:** towed UWTV; Norway lobster; squat lobster; Adriatic Sea
-
- F:04 **Title:** Refining an optical tool for investigating spatial and substock structure in marine fish populations
-
- Authors:** S. M. Bierman, H. M. J. van Overzee, M. Dickey-Collas, and C. J. G. van Damme
-
- Keywords:** Otolith shape analysis, stock discrimination, Atlantic herring (*Clupea harengus*)
-
- [F:05](#) **Title:** Integrating benthic surveys and community analysis through image management: a case study from a biodiversity special area in the Lower St. Lawrence Estuary, Québec, Canada
-
- Authors:** Claude Nozères, Lizon Provencher, François Roy, and Jean-Sébastien Lauzon-Guay
-
- Keywords:** imaging, benthos, habitat classification, St Lawrence Estuary
-
- [F:06](#) **Title:** Autonomous underwater vehicle (AUV) based camera and side-scan sonar assessments of scallop grounds in West Iceland
-
- Authors:** Warsha Singh, Erla B. Ornlófsdóttir, and Gunnar Stefansson
-
- Keywords:** AUV, digital photos, side-scan sonar, West Iceland
-
- F:07 **Title:** *In-situ* measurements of the individual acoustic backscatter of European anchovy (*Engraulis encrasicolus*) and sardine (*Sardina Pilchardus*), with concurrent optical identification
-

Authors: Mathieu Doray, Laurent Berger, Jean Yves Coail, Jean Philippe Vacherot, Gérard Bavouzet, and Pierre Petitgas

Keywords: Target-strength, anchovy, sardine, video camera, echosounder, target identification

F:08 **Title:** Surveying sparsely distributed fish in large closed areas: a visual technique

Authors: Paul Fernandes, Lorenzo Scala, Neil Collie, Michael Stewart, and Fiona McIntyre

Keywords: Visual surveys; anglerfish; Rockall; deep-water coral

F:09 **Title:** Using underwater video cameras and stereo image analysis to groundtruth acoustic surveys of rockfish

Authors: Christopher Rooper, Kresimir Williams, Jerry Hoff, and Alex DeRobertis

Keywords: Alaska, optical technologies, acoustics, *Sebastes*

F:10 **Title:** The use of CCTV for monitoring commercial fisheries

Authors: Howard McElderry

Keywords: electronic monitoring, catch monitoring, CCTV, discards, bycatch, self-reported data, vessel logbooks, observer programmes

Posters

[F:11](#) **Title:** Agreement of net and acoustical methods for surveying euphausiids using a net based LED strobe light system

Authors: Peter H. Wiebe, Gareth L. Lawson, Andone C. Lavery, Nancy J. Copley, Erich Horgan, and Albert Bradley

Keywords: zooplankton, euphausiids, krill, acoustics, strobe light, avoidance

F:12 **Title:** Investigating Mesoscale Eddies in the California System as a survivor habitat for small pelagic fish larvae

Authors: Karen Nieto, Sam McClatchie, and Ed Weber

Keywords: mesoscale, eddies, California System, small pelagic fish, Remote Sensing

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Theme Session G

Habitat Modelling and Mapping for better assessment and monitoring of our seas

Conveners: Jacques Populus (France), Roger Coggan (UK), and Steven Degraer (Belgium)

Papers/Oral Presentations

[G:01](#) **Title:** Spatio-temporal variation in the distribution of gadoid fishes (family: Gadidae) in relation to the installation history of offshore artificial structures in the North Sea

Authors: Toyonobu Fujii

Keywords: Fish habitat utilisation, Gadidae, Offshore platforms, the North Sea

[G:02](#) **Title:** Predicting the spatial presence of the youngest stages of sea spawning whitefish (*Coregonus lavaretus* L. s.l.) larvae with an additive Gaussian process model

Authors: Jarno Vanhatalo, Lari Veneranta, and Richard Hudd

Keywords: Baltic Sea, predictive map, Gaussian process, Bayesian modelling

[G:03](#) **Title:** Using the EUNIS habitat classification system in broadscale regional mapping: some problems and potential solutions from case studies in the English Channel

Authors: Roger Coggan, Ceri James, Bryony Pearce, and Jennifer Plim

Keywords: biological zone, thin sediment, habitat mapping, English Channel

[G:04](#) **Title:** Acoustic studies of benthic habitats in south Baltic Sea using parametric signal processing technique for singlebeam and multibeam echosounders and side scan sonar data

Authors: Jaroslaw Tegowski, Natalia Gorska, Jaroslaw Nowak, Aleksandra Kruss, Mateusz Moskalik, and Kazimierz Szeffler

Keywords: habitat mapping, seafloor classification methodology, south Baltic Sea

[G:05](#) **Title:** Rationalising seabed sediment classification to promote consistency in biotope classification and improve accuracy in predictive biotope mapping

Authors: Bryony Pearce, Ceri James, Roger Coggan, Caroline Chambers, Jacqueline Hill, and David Tappin

Keywords: sediment classification, Folk, habitat mapping, biotope modelling

[G:06](#) **Title:** Exploring patterns of compositional change along environmental gradients, and mapping expected patterns of biodiversity composition at regional scale

Authors: C. Roland Pitcher, Nick Ellis, Peter Lawton, Stephen Smith, Chi-Lin

Wei, Lew Incze, Michelle Greenlaw, Jess Sameoto, Nick Wolff, and Paul Snelgrove

Keywords: beta diversity prediction and mapping, Great Barrier Reef, Gulf of Maine, Gulf of Mexico

[G:07](#) **Title:** Habitat suitability modelling as a tool in the Norwegian program for mapping of marine habitats

Authors: Trine Bekkby, Eli Rinde, Heidi Olsen, Reidulv Bøe, Henning Steen, Nina M. Jørgensen, and Frithjof Moy

Keywords: Norway, habitat suitability modelling, marine spatial planning, marine

[G:08](#) **Title:** Nature Index of Norway – spatial predictive modelling of soft sediment reference conditions along the Norwegian coast

Authors: Hege Gundersen, Trine Bekkby, Karl Norling, Eivind Oug, Brage Rygg, and Mats Walday

Keywords: Norway, spatial predictive modelling, marine infauna, NQI

G:09 **Title:** Classification and mapping of macrobenthic communities as a tool for assessing biological value and sensitivity of the benthic habitats in the Polish EEZ southern Baltic Sea

Authors: J. Warzocha, S. Gromisz, L., Szymanek, and A. Drgas

Keywords: southern Baltic Sea, macrozoobenthos, habitat mapping

[G:10](#) **Title:** A methodology to map the extent of the seabed significantly affected by bottom trawling

Authors: Markus Diesing, John Aldridge, and David Stephens

Keywords: Sea-floor integrity; Fishing pressure; Natural disturbance; English Channel

[G:11](#) **Title:** Geostatistical modelling of surficial sediment composition in the North Sea and English Channel: using historical data to improve confidence in seabed habitat maps

Authors: David Stephens, Roger Coggan, and Markus Diesing

Keywords: Kriging, habitat mapping, surficial sediments, North Sea

[G:12](#) **Title:** Quantification and prediction of the impact of fishing on epifaunal communities from a benthic photographic survey

Authors: G. I. Lambert., S. Jennings, M. J. Kaiser, H. Hinz, and J. G. Hiddink

Keywords: sessile benthos, fishing impact, photographic survey, Irish Sea

G:13 **Title:** Modelling kelp species occurrence and biomass along temperate rocky coastlines

Authors: Daniel Gorman, Touria Bajjouk, Jacques Populus, and Axel Ehrhold

Keywords: Brittany, Laminariales, Generalised Additive Modeling, Ecological distribution

G:14 **Title:** Application of Species Distribution Models in the marine environment

Authors: Henning Reiss, Sarah Cunze, Konstantin König, Hermann Neumann, and Ingrid Kröncke

Keywords: habitat suitability modelling, niche modelling, marine ecosystems, macrofauna, benthic communities, North Sea

G:15 **Title:** Developing a Habitat Template for offshore benthic habitats of Rhode Island, USA

Authors: E. J. Shumchenia, J. W. King, and M. LaFrance

Keywords: biotope, broad spatial scales, top-down, ecosystem-valuation

G:16 **Title:** EUSeaMap: modelling a consistent map for Europe

Authors: Andy Cameron, Anita Carter, EUSeaMap consortium

Keywords: habitat mapping, MSFD, confidence, EUNIS

Posters

G:17 **Title:** The utility of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ stable isotope maps to trace site fidelity and the tropic base of fish populations in the eastern Gulf of Mexico.

Authors: Kara R. Radabaugh, Sheri A. Huelster, David J. Hollander, and Ernst B. Peebles

Keywords: Gulf of Mexico, stable isotopes, food webs, fish site fidelity

[G:18](#) **Title:** Spatial distribution and structure of benthic communities in Herve and Cardozo Coves (Admiralty Bay, King George Island, South Shetlands, Antarctica)

Authors: Anna Kidawa and Tomasz Janecki

Keywords: benthic communities, climate changes, Antarctica

G:19 **Withdrawn**

G:20 **Title:** Sublittoral habitat mapping: remote sensing and modelling

Authors: Rosa Freitas, Victor Quintino, and Ana Maria Rodrigues

Keywords: Mapping benthic habitats, single beam acoustic system (QTC VIEW, Series V), models

G:21 **Title:** Spatial explicit tools to support an ecosystem-based management: Modelling of Nursery Grounds in the German EEZ

Authors: Antje Gimpel, Vanessa Stelzenmüller, Jens Floeter, and Axel Temming

Keywords: Generalized additive models (GAM), geographic information system (GIS), marine spatial planning (MSP), nursery grounds

G:22 **Title:** Changes in spatial distribution of North Sea herring (*Clupea harengus*) in relation to abiotic and biotic factors

Authors: Dominik Gloe, Saskia Otto, and Christian Möllmann

Keywords: acoustic abundance estimates, International Herring Acoustic Survey, spatial distribution, habitat modelling, biotic and abiotic factors

G:23 **Title:** Marine landscapes mapping in the Russian part of the Gulf of Finland

Authors: D. Ryabchuk, M. Orlova, V. Zhamoida, and N. Kovalchuk

Keywords: Eastern Gulf of Finland, marine landscapes

[G:24](#) **Title:** Mapping megabenthic diversity and AMBI index: the Portuguese platform between Aveiro and Porto

Authors: N. Silva, P. Santos, E. Soto, P. Moura, and M. Gaspar

Keywords: Diversity, AMBI. Portuguese platform, benthos, ecological quality

[G:25](#) **Title:** Habitats and associated benthic-demersal communities of mud volcanoes and adjacent zones in the Gulf of Cadiz (southern Iberian Peninsula)

Authors: Emilio González, Juan Gil, José Luis Rueda, Carlos Farias, Alejandra Fernández, Nieves López, Luis M. Fernández, Víctor Díaz del Río, and Candelaria Burgo

Keywords: Gulf of Cadiz, mud volcanoes, habitats, pennatulaceans

[G:26](#) **Title:** The INDEMARES CHICA Project: A proposal to make habitat mapping and biodiversity inventory in the Gulf of Cadiz

Authors: Juan Gil, José Luis Rueda, Marina Delgado, Candelaria Burgos, Carlos Farias, Emilio González, Víctor Díaz del Río and INDEMARES/CHICA team

Keywords: Gulf of Cádiz, Natura 2000 Network, INDEMARES CHICA project

[G:27](#) **Title:** The use of ROV images from the gas pipelines inspection survey in the Strait of Gibraltar area to estimate habitats and its associated benthic-demersal communities

Authors: María Elena de la Calle, Juan Gil, Carlos Farias, Emilio González, José Luis Rueda, and Ignacio Sobrino

Keywords: Strait of Gibraltar, ROV, habitats

[G:28](#) **Title:** Fishery and biology of *Cancer bellianus* off the Azores: Considerations for management

Authors: M. Inácio, E. Isidro, J. Gonçalves, and M. R. Pinho

Keywords: *Cancer bellianus*; exploratory fishing, biology, seamounts, habitat and fishing areas, management

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Theme Session H Recruitment processes: Early life history dynamics – from eggs to juveniles (Joint ICES/PICES theme session)

Conveners: Richard D.M. Nash (Norway), Ed Houde (USA), and Rick Brodeur (USA)

Papers/Oral Presentations

- [H:01](#) **Title:** A multi-species synthesis approach to understanding early life history aspects of recruitment dynamics in relation to environmental change
-
- Authors:** Miriam J. Doyle and Kathryn L. Mier
-
- Keywords:** ichthyoplankton, early life history, exposure-response coupling, recruitment
-
- H:02 **Title:** Externally driven mortality of cod early life stages in the central Baltic: hydrography vs. predation
-
- Authors:** Viola Neumann, Fritz Köster, Matthias Schaber, Hans Harald Hinrichsen, Margit Eero, and Axel Temming
-
- Keywords:** Baltic Sea, cod egg, mortality, hydrography
-
- H:03 **Withdrawn**
-
- [H:04](#) **Title:** An integrative approach to model recruitment dynamics in barnacles
-
- Authors:** Luis Giménez and Staurt Jenkins
-
- Keywords:** recruitment, competition, trait-mediated effects
-
- [H:05](#) **Title:** The effects of environmental conditions and spawning stock size on year-class strength of Northeast Arctic haddock in the period from 1950 to 2006
-
- Authors:** V. P. Serebryakov, M. V. Bondarenko, B. N. Kotenev, A. S. Krovnin, and A. D. Morozov
-
- Keywords:** Northeast Arctic haddock, stock–recruitment, spawning stock size, population fecundity, survival rates, climatic changes
-
- H:06 **Title:** Larval fish retention in the northwest African upwelling in spring
-
- Authors:** Marta Moyano, Jose María Rodríguez, and Santiago Hernández-León
-
- Keywords:** larval fish assemblages, larval transport, Canary upwelling
-
- [H:07](#) **Title:** Temporal settlement patterns and size at transition of juvenile cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*) and whiting (*Merlangius merlangus*) in the northern North Sea
-
- Authors:** Dorota K. Demain, Alejandro Gallego, Colin Millar, Imants G. Priede and Emma G. Jones
-

Keywords: settlement size, 0-group gadoids, northern North Sea

H:08 **Title:** The potential for larval fish data from continuous plankton recorder (CPR) surveys to inform survival and recruitment of sandeels in the North Sea

Authors: Christopher Lynam, Sophie Pitois, Cindy Van Damme, Nicholas Halliday, and Martin Edwards

Keywords: Recruitment, spatial, temporal, seasonality

H:09 **Title:** Environmental influences on reproductive traits of anchoveta, maternal effects and the chances of egg and larval survival under contrasting spawning habitats

Authors: Leonardo Castro, Gabriel Claramunt, Humberto González, María C. Krautz, Alejandra Llanos-Rivera, Joyce Méndez, Wolfgang Schneider, and Samuel Soto

Keywords: *Engraulis ringens*, Humboldt Current, fatty acids, lipids, egg quality

[H:10](#) **Title:** Climate-driven changes in recruitment success of marine invertebrates: the role of food supply

Authors: K. M. Griffith, L. Giménez, and S. R. Jenkins

Keywords: barnacle larvae, food availability, recruitment success, UK

[H:11](#) **Title:** Identifying and monitoring limiting factors of recruitment: anchovy in the Bay of Biscay

Authors: Pierre Petitgas, Martin Huret, and Fabien Léger

Keywords: recruitment, anchovy, quantile regression, physical-biogeochemical models, hindcast

[H:12](#) **Title:** Dynamics of larval and juvenile rockfishes (*Sebastes* spp.) recruitment in coastal waters of the northern California Current

Authors: Richard D. Brodeur, Toby D. Auth, Tristan Britt, Elizabeth A. Daly, Robert L. Emmett, and Marisa N. C. Litz

Keywords: rockfish, ichthyoplankton, juveniles, recruitment indicators

[H:13](#) **Title:** Changes in the reproductive success of the Gulf of Riga herring

Authors: Ivars Putnis, Bärbel Müller-Karulis, and Georgs Kornilovs

Keywords: Baltic Sea, Gulf of Riga herring, reproduction

H:14 **Title:** Recruitment of Pacific cod (*Gadus macrocephalus*) in southern Korean coastal waters

Authors: Sukgeun Jung, Suam Kim, and Il Su Choi

Keywords: Pacific cod, Pacific herring, climate change, recruitment, western North Pacific

H:15 **Title:** Spatial and Temporal Patterns in the Dynamics of Pre-Recruit Rockfishes on the U.S. West Coast

Authors: Stephen Ralston, John C. Field, and Keith M. Sakuma

Keywords: rockfish, year-class strength, recruitment, California

H:16 **Withdrawn**

H:17 **Title:** Resolving the relative importance of fish nursery habitats using otolith elemental fingerprints

Authors: Holly J. Rolls, David L. Jones, Carole C. McIvor, Janet A. Ley, and Ernst B. Peebles

Keywords: nursery habitat, natural tags, otolith elemental fingerprinting, west-central Florida (USA)

[H:18](#) **Title:** Effects of photoperiod and temperature on recent growth rates of sprat larvae in the Baltic Sea

Authors: C. Clemmesen, E. M. Caldarone, R. Voss, and H.-H. Hinrichsen

Keywords: growth rate, temperature, photoperiod, GAM model approach, larval sprat, effect on recruitment

H:19 **Title:** Environmental and habitat effects on early life stages and subsequent recruitment variability of the common cuttlefish (*Sepia officinalis*) within the English Channel

Authors: Isobel Bloor, Emma Jackson, Jean-Paul Robin and Martin Attrill

Keywords: English Channel, Cephalopod, Recruitment, Habitats

H:20 **Title:** Examine and quantify connectivity between spawning areas and nursery habitats of two North Sea key species: brown shrimp and plaice

Authors: Mark Hufnagl, Adriaan Rijnsdorp, Richard Nash, Axel Temming, Thomas Pohlmann, Maarten Boersma, and Myron Peck

Keywords: connectivity, brown shrimp, plaice, nursery areas, spawning grounds, drift, recruitment

[H:21](#) **Title:** The different approaches to evaluations of eastern Baltic cod annual egg production on diverse spawning grounds and a possible role of skipped spawning in stock decline

Author: E. M. Karasiova

Keywords: Baltic Sea, cod annual egg production, different environmental conditions, skipped spawning

H:22 **Withdrawn**

[H:23](#) **Title:** Recruitment of Atlantic menhaden to Chesapeake Bay: ecological processes during the larval-juvenile transition

Authors: E. D. Houde, C. Lozano, E. R. Annis, L. W. Harding, Jr., D. H. Secor, M. J. Wilberg, and R. L. Wingate

Keywords: Atlantic menhaden, Chesapeake Bay, recruitment variability

[H:24](#) **Title:** Exploring larvae recruitment variability of Peruvian anchovy and sardine with modeling and data assimilation

Authors: Olga Hernandez, Patrick Lehodey, Inna Senina, Patricia Ayon, Arnaud Bertrand, Vincent Echevin, and Philippe Gaspar

Keywords: end-to-end model, SEAPODYM, anchoveta, sardine, upwelling ecosystem, parameter optimization, population dynamics, spawning habitat

H:25 **Title:** The impact of climate change on Baltic sprat population dynamics – a matrix model approach

Authors: H. Haslob, M.A. Peck, C. Clemmesen, C. Petereit, and G. Kraus

Keywords: sprat, Baltic Sea, life stage based model

H:26 **Title:** Cuttlefish (*Sepia officinalis* L.) early life history from different coastal areas of the English Channel: comparison between experimental hatchlings and wild pre-recruits physiological performances

Authors: G. Safi, I. Bloor, E. Jackson, M. Gras, J. P. Robin, and N. Koueta

Keywords: Cuttlefish, *Sepia officinalis*, Physiological performance, habitats, spawning sites, juveniles, hatchlings, prerecruits

H:27 **Title:** Population Dynamics of Plankton in the Gulf of Maine

Authors: Brian J. Rothschild and Yue Jiao

Keywords: plankton dynamics, Northwest Atlantic

H:28 **Title:** Trait-based modelling of marine fish early life stages

Authors: Klaus B. Huebert and Myron A. Peck

Keywords: fish larvae, individual-based model, morphometrics

H:29 **Title:** Multiple indices shed light on transport-related condition of coral reef fish larvae

Authors: M. J. Hauff, S. Sponaugle, K. D. Walter, and R. K. Cowen

Keywords: Early life history, larval condition, RNA/DNA, Florida Keys

[H:30](#) **Title:** Predator-specific growth-selective predation and dynamics of the growth-based survival mechanisms in anchovy larvae

Authors: Akinori Takasuka, Ichiro Aoki, Ayumu Sakai, Yoshioki Oozeki, and Dominique Robert

Keywords: growth-selective predation, bigger is better, stage duration, anchovy larvae

Posters

H:31 **Title:** Overwinter survival of larval herring *Clupea harengus*

Authors: Björn Illing, Marta Moyano, and Myron A. Peck

Keywords: herring larvae, overwinter survival, ecophysiology, Baltic and North Seas

[H:32](#) **Title:** Maternal effects: from environment through molecular and individual level, towards population ecology; the shore crab (*Carcinus maenas*) as model species

Authors: Gabriela Torres, David Wilcockson, David Thomas, Nia Whiteley, and Luis Giménez

Keywords: none

[H:33](#) **Title:** Is recruitment of plaice in the Irish Sea constrained by predation of eggs by sprat?

Authors: Antonio Plirú, Jeroen van der Kooij, Georg H. Engelhard, Clive J. Fox, Stephen P. Milligan, and Ewan Hunter

Keywords: early life-history, eggs, predation, Irish Sea

[H:34](#) **Title:** Choice of age to assess year-class strength in small pelagic fishes of the Canary upwelling region

Authors: N. Timoshenko and N. Barkova

Keywords: Canary upwelling region, small pelagic, recruitment

[H:35](#) **Title:** Environmental factors influencing abundance fluctuations and distribution of fish maturity early stages in the central-east Atlantic

Author: A. Arkhipov

Keywords: fish maturity early stages, environmental factors, the Central-East Atlantic

[H:36](#) **Title:** Recruitment dynamics of Baltic sprat and yield prediction of generations in the medium term

Authors: Faustus Svecovs, Guntars Strods, Alla Vingovatova, and Tatiana Vasilieva

Keywords: Baltic sprat, Baltic sea, sprat generations

[H:37](#) **Title:** Internal brooding as a beneficial reproductive strategy for sea anemones in the intertidal zone

Authors: Anita Kaliszewicz, Ninel Panteleeva, Izabella Olejniczak, Paweł Boniecki

Keywords: internal brooding, sea anemones, spatial structure, reproductive strategies

H:38 **Title:** "Puffing" under the water surface – hatching process in *Balanus improvisus*

Authors: Anna Dziubińska and Anna Szaniawska

Keywords: acorn barnacle, hatching, Gulf of Gdańsk

[H:39](#) **Title:** Spatial variability in zooplankton and feeding of larval Atlantic mackerel (*Scomber scombrus*) in the southern Gulf of St. Lawrence

Authors: Vanessa Paradis, Pascal Sirois, Martin Castonguay and Stéphane Plourde

Keywords: Recruitment, Larval feeding, Atlantic mackerel, Gulf of St Lawrence

H:40 **Title:** A north-south comparison of abundance, growth and mortality of juvenile black rockfish (*Sebastes cheni*) in seagrass beds around Japan

Authors: Jun Shoji, Ken-Ichiro Mizuno, Yasuhiro Kamimura, Atsushi Fukuta, Shun-Ichi Toshito, and Hikari Kinoshita

Keywords: juveniles. rockfish, abundance, growth, growth-selective survival, seagrass

H:41 **Title:** Cohort-specific survival of larvae and juveniles of an estuarine-dependent fish, Japanese seabass *Lateolabrax japonicus*: comparison between artificial and natural habitats

Authors: Yuji Iwamoto and Jun Shoji

Keywords: *Lateolabrax japonicus*, mortality, estuary, The Ohta River in Japan

[H:42](#) **Title:** Some factors influencing year-class strength of Baltic sprat (*Sprattus sprattus balticus*)

Authors: Andrei Makarchouk, Galina Grauman, and Viesturs Berzinsh

Keywords: Baltic sprat, recruitment, wind, temperature

H:43 **Title:** Success of reproduction in the Baltic herring: connections between maternal properties, environmental conditions, and herring fishery

Authors: Päivi Laine, Jan Eklund, Eila Lahdes, Raimo Parmanne, and Marjut Rajasilta

Keywords: Baltic herring, Archipelago Sea, maternal effects, reproductive success

[H:44](#) **Title:** Growth-selective recruitment from pelagic to demersal habitats for juvenile jack mackerel (*Trachurus japonicus*) in the East China Sea

Authors: M. Takahashi, C. Sassa, and Y. Tsukamoto

Keywords: growth rate, selective recruitment, habitat change, East China Sea

H:45 **Title:** Identification of recruitment bottlenecks in the early life history of western Baltic herring (*Clupea harengus*, L.)

Authors: P. Polte, S. Beyer, P. Kotterba, C. Hammer, R. Oeberst, and C. Zimmermann

Keywords: herring recruitment, inshore ecosystems, Western Baltic Sea.

[H:46](#) **Title:** Effects of temperature and salinity on the abundance of larval herring in the Pomeranian Bay during 1992–98 and 2007–10

Authors: Agnieszka Pawełczyk, Dariusz Fey, and Adam Woźniczka

Keywords: Pomeranian Bay, herring larvae, density

H:47 **Title:** Cannibalism as regulating mechanism in the recruitment of crustaceans over their distributional range in European waters – a theoretical approach

Authors: Joana Campos, Cláudia Moreira, Fabiana Freitas, and Henk W. van der Veer

Keywords: cannibalism, recruitment regulation, *Carcinus maenas*, *Crangon crangon*

H:48 **Title:** Turbot sperm quality changes during the spawning season

Authors: E. Gosz, J. Horbowy, and Z. Mirny

Keywords: *Psetta maxima*, spermatozoa, day of spawning, morphometry

H:49 **Title:** Herring recruitment ecology: looking at the youngest

Authors: S. Beyer, C. Hammer, C. Zimmermann, O. Goni, P. Polte, and P. Kotterba

Keywords: yolk-sac larvae, actively feeding larvae, variability, recruitment

H:50 **Title:** The pattern of genetic structuring in the European hake is highly dependent on the Bayesian model enforced but insensitive to the differentiation parameter used

Authors: A. Pita, M. Pérez, F. Velasco, and P. Presa

Keywords: European hake, *Merluccius merluccius*, genetic structure, differentiation coefficients, Bayesian inference

H:51 **Title:** Development of invertebrate assemblages on hard substrate in the coastal region of the Gulf of Gdańsk

Authors: Marcelina Ziólkowska, Adam Sokołowski¹, Irmina Plichta, Piotr Kukliński, Piotr Bałazy, and Maciej Wołowicz

Keywords: colonization, succession, hard substrate, field experiment, Gulf of Gdańsk, Baltic Sea

[H:52](#) **Title:** Larval development of the prawn *Palaemon serratus* under limited access to prey

Authors: Enrique González-Ortegón and Luis Giménez

Keywords: none

H:53 **Title:** Pre-recruit survival and immune system evolution of cuttlefish (*Sepia*)

officinalis L.) from different spawning sites of the English Channel

Authors: G. Safi, C. Le Pabic, J. P. Robin, and N. Koueta

Keywords: Immune assays, English Channel, *Sepia officinalis*, juveniles.

[H:54](#) **Title:** Inbreeding among farmed Atlantic cod (*Gadus morhua*) and possible effects on offspring quality

Authors: Olivia A. Puckrin, Edward A. Trippel, Craig F. Purchase, and Ian A. Fleming

Keywords: Northwest Atlantic cod (*Gadus morhua*), Aquaculture, inbreeding, mating competition

H:55 **Withdrawn**

H:56 **Title:** Individual growth trajectories identify critical periods in finfish early life stages

Authors: Fabian J. Schäfer, Sebastian Flues, Stefan Meyer, David A. Bengtson, and Myron A. Peck

Keywords: individuals, larval fish, critical period, gross growth efficiency

H:57 **Title:** Changes in growth and condition of larval herring in the Greifswalder Bodden (southwest Baltic Sea) reveal match-mismatch dynamics

Authors: Lars Christiansen and Myron A. Peck

Keywords: Western Baltic Spring Spawner (WBSS), match–mismatch, larvae, growth, biochemical condition, field survey

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Theme Session I Integrating top predators into ecosystem management

Conveners: Begoña Santos (Spain), Mark Dickey-Collas (the Netherlands), and Stefan Neuenfeldt (Denmark)

Papers/Oral Presentations

- [I:01](#) **Title:** Body condition of predatory fish linked to the availability of sandeels
-
- Authors:** Georg H. Engelhard, Julia L. Blanchard, John K. Pinnegar, Jeroen van der Kooij, Ewen D. Bell, Steven Mackinson, and David A. Righton
-
- Keywords:** sandeel, predators, body condition, North Sea
-
- I:02 **Title:** Spatial selection of sandeel (*Ammodytes marinus*) by Grey seals (*Halichoerus grypus*)
-
- Authors:** Geert Aarts, Sophie Brasseur, Anna Rindorf, Sophie Smout, Mark Dickey-Collas, and Jason Matthiopoulos
-
- Keywords:** predator–prey, marine mammals, spatial distribution, North Sea
-
- I:03 **Title:** Consistent differences in fish and marine mammal diets at closely located sites, revealed through stable isotope analyses, despite seasonal migration and population mixing.
-
- Authors:** John K. Pinnegar, Katherine Read, Georg H. Engelhard, and Julia L. Blanchard
-
- Keywords:** Dogger Bank, sandeel, predation, seal, porpoise, seasonality
-
- [I:04](#) **Title:** Spatial and temporal variability of tuna predation upon juvenile anchovy in the Bay of Biscay
-
- Authors:** Nicolas Goñi, Valérie Peninon, Haritz Arrizabalaga, and Andrés Uriarte
-
- Keywords:** anchovy, albacore, bluefin tuna, Bay of Biscay, predation
-
- [I:05](#) **Title:** Monitoring life history parameters in harbour porpoises
-
- Authors:** Graham J. Pierce, Sinead Murphy, Jennifer A. Learmonth, Bob Reid, and M. Begoña Santos
-
- Keywords:** top predators, cetaceans, population status, monitoring, life history
-
- [I:06](#) **Title:** Indirect effects of a bottom trawl fishery on the diet of demersal fish species
-
- Authors:** A. F. Johnson, G. Gorelli, J. Hiddink, S. Jenkins, and H. Hinz
-
- Keywords:** demersal fish, Irish Sea, predator–prey interactions, trawl fishery
-

I:07	Withdrawn
I:08	<p>Title: How does prey availability affect the provisioning of chicks by parent birds? A functional response for guillemots in the North Sea</p> <hr/> <p>Authors: Sophie Smout, Francis Daunt, Sarah Wanless, Mike Harris, Jason Matthiopoulos, and Anna Rindorf</p> <hr/> <p>Keywords: <i>Uria aalge</i>, top predators, GES, functional response</p>
I:09	<p>Title: Do seals and man fish in the same spots? Evidence of low spatial overlap between a top predator and specific fisheries off Irelands' west coast</p> <hr/> <p>Authors: M. A. Cronin, H. D. Gerritsen, and D. G. Reid</p> <hr/> <p>Keywords: Grey seal, fishery interactions, resource overlap, Irish continental shelf</p>
I:10	<p>Title: Stickleback predation on early life stages of herring (<i>Clupea harengus</i>, L.) in a shallow western Baltic retention area</p> <hr/> <p>Authors: P. Kotterba, S. Beyer, C. Hammer, and P. Polte</p> <hr/> <p>Keywords: predation, herring recruitment, stickleback, Western Baltic Sea</p>
I:11	<p>Title: Fish consumption by cetaceans in Scottish (UK) and Galician (Spain) waters</p> <hr/> <p>Authors: M. Begoña Santos, Ruth Fernández, Katharina Sollmann, Imogen German, Diana Correia, Anabela Gouveia, Alfredo López, Bob Reid, and Graham J. Pierce</p> <hr/> <p>Keywords: common dolphin, harbour porpoise, diet, food consumption, Scotland, Galicia</p>
I:12	<p>Title: Estimating fish predation by marine mammals on the northeast US continental shelf</p> <hr/> <p>Authors: Laurel Col, Jason link, Steve Cadrin, and Debra Palka</p> <hr/> <p>Keywords: marine mammals, diet compositions, consumption estimates, Northeast US continental shelf</p>
I:13	<p>Title: Consumption of prey by minke whales in Icelandic Waters</p> <hr/> <p>Authors: Bjarki Þór Elvarsson and Gísli Víkingsson</p> <hr/> <p>Keywords: top predator, prey suitability</p>
I:14	<p>Title: Squid in the North Sea: a new effective top predator with potential impact on fish recruitment and ecosystem shift</p> <hr/> <p>Authors: Daniel Oesterwind and Uwe Piatkowski</p> <hr/> <p>Keywords: North Sea, squid, predation, ecosystem</p>
I:15	<p>Title: From past to future: environmental variability impacts on the distribution of oceanic predators</p>

Authors: Maite Louzao, Thorsten Wiegand, Clara Péron, Karine Delord, and Henri Weimerskirch

Keywords: oceanic predators, Southern Ocean, wandering albatross, spatial modelling

I:16 **Title:** On the use of stomach content data from top predators in statistical multispecies models of marine populations.

Authors: Bjarki Þór Elvarsson and Gunnar Stefánsson

Keywords: top predator, prey suitability, gadget, statistical stock assessment, multispecies models

I:17 **Title:** Consumption of fish by top predators in the North Sea

Authors: Sophie Smout, Anna Rindorf, Morten Vinther, Ayoe Hoff, Hans Frost, Simon Northridge, and Phil Hammond

Keywords: diet, consumption, cost, top predator

[I:18](#) **Title:** Assessing the effects of small pelagics fisheries on marine top-predators: the Bay of Biscay case study

Authors: Géraldine Lassalle, Jérôme Spitz, Vincent Ridoux, Hélène Peltier and Nathalie Niquil

Keywords: *Ecopath with Ecosim*, Foodweb modelling, ecosystem-based fishery management, Northeast Atlantic

I:19 **Title:** Effects of mammal predation on small pelagic fish

Authors: Anna Gårdmark, Örjan Östman, Karl Lundström, Olle Karlsson, Jukka Pönni, Martin Lindegren, Anders Nielsen, Olavi Kaljuste, and Teija Aho

Keywords: Top-predators, trophic interactions, ecosystem management, Bothnian Sea herring

I:20 **Title:** Defining management reference points for a rockfish stock with fluctuating rates of natural mortality arising from changes in predator abundance

Authors: Shannon G. Obradovich and Murdoch K. McAllister

Keywords: pinnipeds, management reference points, predator-prey, stock assessment

I:21 **Title:** Top predator – prey interactions in the Barents Sea and implications for ecosystem monitoring and management

Authors: Mette Skern-Mauritzen, Per Fauchald, Edda Johannesen, Ulf Lindstrøm, and Harald Gjøsæter

Keywords: Pelagic community, top predators, trophic interactions, ecosystem management

[I:22](#) **Title:** Significance of seal feeding on cod west of Scotland – results from a state

space stock assessment model and comparison with an ecosystem model

Authors: S. J. Holmes and Rob J. Fryer

Keywords: assessment, cod, ICES division VIa, seals

I:23 **Title:** Grey seal predation on forage fish in the Baltic Sea

Authors: Eero Aro, Stefan Neuenfeldt, Teija Aho, Pekka Jounela, Karl Lundström, and Fritz Köster

Keywords: Grey seal, Baltic herring, sprat, multispecies interactions, ecosystem management

I:24 **Title:** Could seals prevent cod recovery in the Baltic Sea?

Authors: Brian MacKenzie, Margit Eero, and Henn Ojaveer

Keywords: cod, seals, climate change, fishery, ecosystem, Baltic Sea, sustainability, management

Posters

I:25 **Withdrawn**

I:26 **Title:** Feeding ecology of black scabbardfish, (*Aphanopus carbo* Lowe 1839), in the deep water of the Northeast Atlantic

Authors: Ana Ribeiro Santos, Emer Rogan, and Paul Connolly

Keywords: Black Scabbardfish, Deep Sea, Feeding habits, Seasonal variability

I:27 **Title:** Harbour porpoise and bottlenose dolphin in Ireland: diet and interactions with fisheries

Authors: Gema Hernandez-Milian, M. Begoña Santos, and Emer Rogan

Keywords: harbour porpoise, bottlenose dolphin, fishery, whiting, clupeids

I:28 **Title:** Overlapping on diet of some demersal fish off Angola

Authors: Kumbi Kilongo, Vanaquissa Jonico, Fatima Delicado

Keywords: Angola, overlapping, predator, prey

[I:29](#) **Title:** Shifts in seabird species habitats owing to the global climatic change

Authors: Oleg Krasnoborodko, Feodor Litvinov, and Alexander Remeslo

Keywords: seabirds, Central Eastern Atlantic, Southwest Atlantic, Southeast Pacific, ecosystem shifts, global climatic changes

[I:30](#) **Title:** Antarctic cranch squid (*Mesonychoteuthis hamiltoni*) - a top predator of the Antarctic waters - its distribution and relationship with Antarctic (*Dissosticus mawsoni*) and Patagonian (*Dissosticus eleginoides*) toothfish

Authors: Alexander Remeslo, Christine Hieber, and Oleg Krasnoborodko

Keywords: Antarctic cranch squid, Antarctic toothfish, Patagonian toothfish, CCALMR

-
- I:31 **Title:** Identifying ecologically important marine areas in the Northeast Atlantic: preliminary results for the conservation of marine top predators
-
- Authors:** Maite Louzao, Xulio Valeiras, Salvador García-Barcelona, Ruth Fernández, Ariadna Acero, Silvia Monteiro, Helder Araújo, Paula Méndez, Rafael González-Quirós, and M. Begoña Santos
-
- Keywords:** ecologically meaningful marine areas, marine predators, ecosystem-based monitoring programme, NE Atlantic
-
- [I:32](#) **Title:** Cod as top predator in the southeastern Baltic: results of the winter observations in 1992–2010
-
- Authors:** F. A. Patokina, Ch. M. Nigmatullin, and S. M. Kasatkina
-
- Keywords:** none
-
- I:33 **Title:** A study to evaluate survival of adult spring/summer chinook salmon migrating from the mouth of the Columbia River to Bonneville Dam (Rkm 234)
-
- Authors:** A. Michelle Wargo Rub, Lyle G. Gilbreath, R. Lynn McComas, Lila Charlton, Benjamin P. Sandford, David J. Teel, and John W. Ferguson
-
- Keywords:** salmon, survival, pinniped, predation
-
- [I:34](#) **Title:** A role of clupeid predation on fish eggs and larvae in the Gdansk Deep of the Baltic Sea
-
- Authors:** E. M. Karasiova, F. A. Patokina, and N. A. Kalinina
-
- Keywords:** the Baltic Sea, clupeids, predation on fish and larvae, predominant prey
-
- I:35 **Title:** The importance of prey quality and availability on plankton predation by keystone Arctic species, the little auk
-
- Authors:** K. Błachowiak-Samołyk, L. Stempniewicz, E. Trudnowska, J. M. Węśławski, R. Boehnke, and M. Wichorowski
-
- Keywords:** climate change, zooplankton, bi-environmental seabirds, West Spitsbergen
-
- [I:36](#) **Title:** West African chondrichthyan species as top consumer and food competitor of economically important fishes
-
- Authors:** Litvinov Feodor, Faina Patokina and Nikolay Timoshenko
-
- Keywords:** Western African waters; sharks, skates, rays and chimaera diets; small pelagic fish consuming; feeding spectra overlap
-
- [I:37](#) **Title:** Comparative analysis of the impact of trawl and longline fishing on the Barents Sea ecosystem
-
- Authors:** Andrey A. Grekov and Konstantin V. Drevetnyak
-
- Keywords:** Barents Sea, bottom biocenosis, bottom trawl, longline, species and size selection
-

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Theme Session J

Climate and fisheries related influences on marine ecosystems at regional and basin scales

Conveners: Webjørn Melle (Norway) and Erica Head (Canada)

Papers/Oral Presentations

- [J:01](#) **Title:** Cyclic climate changes and major commercial stocks in the Arctic region
-
- Authors:** O. A. Bulatov., L. B. Klyashtorin, and V. M. Borisov
-
- Keywords:** Arctic climate impacts, cod, herring, walleye pollock fishable biomass
-
- [J:02](#) **Title:** Crustacean cross-roads: Comparative analysis of population connectivity of copepods and euphausiids in the North Atlantic Ocean
-
- Authors:** Ann Bucklin, Leocadio Blanco-Bercial, Nancy J. Copley, and Peter H. Wiebe
-
- Keywords:** zooplankton, connectivity, gene flow, population genetics
-
- J:03 **Title:** Long-term changes in zooplankton community in the southern part of the Baltic Sea – search for evidence of climate change and impact of fisheries pressure
-
- Authors:** P. Margonski, B. Kaczmaruk, and W. Krasniewski
-
- Keywords:** southern Baltic Sea, zooplankton, climate change, fishery pressure
-
- J:04 **Title:** Ecosystem responses in the North Atlantic to the cold period of the 1970s and 1980s
-
- Authors:** Ken Drinkwater and Trond Kristiansen
-
- Keywords:** Climate, cold period, North Atlantic, ecosystem response
-
- J:05 **Withdrawn**
-
- J:06 **Title:** Baltic Sea ecosystem changes and thresholds
-
- Authors:** T. Blenckner, M. Llope, M. Casini, C. Möllmann, M. Rodriguez-Medina, C. Humborg, and N. C. Stenseth
-
- Keywords:** regime shifts, foodweb, climate, eutrophication
-
- J:08 **Title:** Environmental regulation of capelin in the Northwest Atlantic
-
- Authors:** Alejandro D. Buren, Mariano Koen-Alonso, Fran Mowbray, Brian Nakashima, Garry Stenson, Pierre Pepin, and Neil Ollerhead
-
- Keywords:** sea ice, bottom-up, climate change, forage fish
-
- J:09 **Title:** Applying the shiftogram approach for identifying ecosystem changes –
-

the Baltic Sea as a multivariate test case

Authors: Joachim Gröger, Christian Möllmann, Thorsten Blenckner, Anna Gårdmark, Martin Lindegren, Bärbel Müller-Karulis, Axe Philip, Maris Plikshs, and Georgs Kornilovs

Keywords: none

J:10 **Title:** Improving the stock–recruitment relationship by including environmental data

Authors: Geir Ottersen and Esben Moland Olsen

Keywords: Recruitment, North Sea, cod, model

J:11 **Title:** Fishery- and climate-induced changes in predator distribution trigger a spatial reallocation of its prey: the cod–sprat dynamics in the Baltic Sea

Authors: Michele Casini, Ulf Bergström, Valerio Bartolino, Eero Aro, Martin Lindegren, Philip Axe, and Markus Meier

Keywords: spatial top–down control, geographical distribution, physical-biochemical modelling, Baltic Sea

[J:12](#) **Title:** The influence of the North Atlantic Oscillation on the abundance of *Pagellus bogaraveo* of the Azores

Authors: M. R. Pinho, I. Bashmachnikov, and A. Martins

Keywords: deep-water, abundance, climate variability, management

Posters

[J:07](#) **Title:** Oscillations in abundance of some economically important fishes related to hydro-climate of the Northwest Atlantic

Author: Igor K. Sigaev

Keywords: interannual variability; NAO index variability; Greenland halibut, redfish, cod and other economically important fish of NWA

[J:13](#) **Title:** Rock cod, *Patagonotothen ramsayi* as a key species in the Falkland Islands' ecosystem

Authors: Vladimir Laptikhovsky, Alexander Arkhipkin, and Paul Brickle

Keywords: rock cod, *Patagonotothen ramsayi*, Falkland Islands, ecosystem

J:14 **Withdrawn**

J:15 **Withdrawn**

J:16 **Title:** The response of the Baltic Sea to climate variability

Authors: K. Getzlaff, A. Lehmann, and H.-H. Hinrichsen

Keywords: Climate variability, Baltic Sea, modelling

J:17 **Title:** Effects of future climate on physiology and egg production in Baltic Sea sprat

Authors: Christina Frisk, Axel Temming, Jens-Peter Herrmann, Kristine Skovgaard Madsen, and Ken Haste Andersen

Keywords: Baltic Sea, bioenergetic model, climate scenarios, *Sprattus sprattus*

J:18 **Title:** Possible impact of temporal changes of sea temperature on *Aurelia aurita* (L.) quantity in the Baltic Sea

Author: Krzysztof Pawlikowski

Keywords: *Aurelia aurita*, abundance, Baltic Sea, temperature

J:19 **Title:** Interannual dynamics of zoobenthos in the Vistula Lagoon, Baltic Sea in 1997–2010

Author: Elena Ezhova

Keywords: The Vistula Lagoon, biomass, production, zoobenthos

J:20 **Title:** Shifts in the genetic structure of the European hake met population as fingerprints of migration between fishery grounds

Authors: A. Pita, A. Leal, C. Piñeiro, and P. Presa

Keywords: European hake, *Merluccius merluccius*, genetic markers, connectivity pattern

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Theme Session K

Integrating micro- and meso-zooplankton in marine food web research

Conveners: James J. Pierson (USA), Steve Hay (UK), and Sigrún Jónasdóttir (Denmark)

Papers/Oral Presentations

K:01 **Title:** Impact of the alien predatory cladoceran *Cercopagis pengoi* on zooplankton: evidence from laboratory experiments

Authors: Henn Ojaveer, Mart Simm, and Maria Pöllupüü

Keywords: Baltic Sea, alien species, zooplankton, predator-prey interactions

[K:03](#) **Title:** From zooplankton to large pelagic fish: production and biomagnification in a tropical coastal pelagic food web adjacent to Lihir gold mine (Papua New Guinea)

Authors: D. T. Brewer, A. J. Richardson, S. Griffiths, E. B. Morello, G. Fry, D. Heales, S. Apte, W.N. Venables, P. Rothlisberg, C. Moeseneder, M. Lansdell, B. Pendrey, D. Milton, M. Tonks, F. Coman, and J. Strzelecki

Keywords: Deep sea tailings placement, pelagic food web, trace metals, Papua New Guinea

K:04 **Withdrawn**

[K:05](#) **Title:** Trophic interactions among zooplankton and fish species within the pelagic ecosystem of the Iceland Sea

Author: Hildur Petursdottir

Keywords: trophic ecology, zooplankton, capelin, stable isotopes, fatty acids, Iceland Sea

K:06 **Withdrawn**

[K:07](#) **Title:** Essential fatty acid (docosahexaenoic acid, DHA) affects RNA:DNA ratio of larval herring in the field

Authors: Matthias Paulsen, Catriona Clemmesen, and Arne M. Malzahn

Keywords: essential fatty acids, mesozooplankton, protists, nutritional condition, herring larvae

K:08 **Withdrawn**

K:09 **Title:** Specific long-term variability of Baltic Sea zooplankton stocks due to environmental and anthropogenic influences – and potential consequences

Authors: Lutz Postel and Carola Wagner

Keywords: copepods, Baltic Sea

[K:10](#) **Title:** Carbon dioxide affects copepod production by reducing the nutritional quality of their algal diet

Authors: Jorge Rafael Bermúdez, Dennis Rossoll, Monika Winder, Helena Hauss, Kai Schulz, Ulrich Sommer, and Ulf Riebesell

Keywords: copepods, diatoms, fatty acids, carbon dioxide

K:11 **Title:** Egg or female: who decides the fate of an egg type? A laboratory study on Baltic *Acartia tonsa*

Authors: L. Holste, N. Schulz, A. B. S. Diekmann, J. Peters, J. Renz, and M. A. Peck

Keywords: *Acartia tonsa*, diapause eggs, egg morphology, hatching success

K:12 **Title:** Results from zooplankton size structure surveys in the Bay of Biscay during the last decade.

Authors: Pieter Vandromme, Enrique Nogueira, Martin Huret, Ángel López-Urrutia, Gonzalo González-Nuevo, Pierre Petitgas, and Marc Sourisseau

Keywords: Zooplankton, Size-spectra, Bay of Biscay, L-OPC, ZooScan

K:13 **Title:** Modeling the global-scale transfer of energy between primary producers and mesozooplankton

Authors: Charles A. Stock and John P. Dunne

Keywords: mesozooplankton, climate, energy transfer, plankton foodweb

K:14 **Title:** Plankton trophic dynamics in hypoxic waters: seasonal effects and food web implications

Authors: James J Pierson, Diane K. Stoecker, Michael Roman, David Elliott, Ed Houde, Mary Beth Decker, Katherine Liu, and Ali Barba

Keywords: trophic interactions, copepods, hypoxia, Chesapeake Bay

Posters

[K:02](#) **Title:** Production of planktonic crustaceans in the southeastern part of the Baltic Sea (in 1995–2010)

Authors: Anna Semenova and Natalia Zhigalova

Keywords: South Baltic Sea, zooplankton, production, planktonic crustaceans

K:15 **Withdrawn**

[K:16](#) **Title:** State of the Canary upwelling zooplankton in winter

Authors: O. G. Glushko

Keywords: none

K:17 **Title:** Spatio-temporal and inter-annual variability of mesozooplankton (holoplankton) in the eastern part of the Gulf of Gdańsk (Baltic Sea)

Authors: Luiza Bielecka, Paweł Maruszak, Beata Sobczak

Keywords: Baltic Sea, estuarine waters, zooplankton, variability

K:18 **Title:** Interannual changes of holozooplankton in the southern Baltic (Gulf of Gdańsk, 2006–2007)

Authors: S. Mudrak-Cegiołka, M. Kalarus, A. Renusz

Keywords: southern Baltic, coastal waters, zooplankton, interannual changes

[K:19](#) **Title:** Hydrographic patterns conditioning variable trophic pathways and early life dynamics of bullet tuna larvae (*Auxis rochei*) in the Balearic Sea

Authors: R. Laiz-Carrión, J. M. Quintanilla, A. Pérez-Torres, P. Reglero, A. García, and F. Alemany

Keywords: bullet tuna larvae, mesozooplankton, trophism, growth, stable isotope, Balearic Sea

[K:20](#) **Title:** Trophic interaction between zooplankton and anchovy larvae (*Engraulis encrasicolus*) with daily growth variability implications

Authors: J. M. Quintanilla, R. Laiz-Carrión, A. Uriarte, M. Iglesias, F. Alemany, and A. García

Keywords: anchovy larvae, zooplankton, trophic interactions, growth, stable isotope, Mediterranean Sea

[K:21](#) **Title:** Feeding and fecundity of *Calanus finmarchicus* and *Temora longicornis* in Breiðafjörður, West Iceland

Authors: Vigdís Sigurðardóttir, Erla Björk Örnólfsdóttir, and Ástþór Gíslason

Keywords: Iceland, Copepods, Egg production, Gut fluoresces

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Theme Session L

Biophysical modelling tools and their potential use in marine spatial management: a strategic dialogue

Conveners: Myron A. Peck (Germany), Rubao Ji (USA), Pierre Petitgas (France), and Vanessa Stelzenmüller (Germany)

Papers/Oral Presentations

L:01 **Title:** Biophysical assessments and adaptive spatial management for tropical trawling

Authors: Rodrigo H. Bustamante, Cathy M. Dichmont, Nick Ellis, Shane P. Griffiths, Wayne A. Rochester, and Aijun R. Deng

Keywords: Effects of trawling, ecological impacts, ecosystem processes, management strategy evaluation, adaptive spatial management, ecosystem-based management

[L:02](#) **Title:** The impact of hydrodynamics and hydrography on western Baltic cod early life stage survival

Authors: H.-H. Hinrichsen, K. Hüseyin, and B. Huwer

Keywords: spawning habitat, egg and larval development, transport processes, environment-related western Baltic cod stage specific survival

L:03 **Title:** The response of a Gulf estuary plume and hypoxia to wind forcing

Author: Meng Xia

Keywords: EFDC, Plume, Hypoxia

[L:04](#) **Title:** Evaluating management scenarios using predictive habitat modelling – effects of eutrophication mitigation in the Baltic Sea

Authors: Ulf Bergström, Göran Sundblad, Anna-Leena Downie, Martin Snickars, and Mats Lindegarth

Keywords: Habitat modelling, MaxEnt, scenario analysis, eutrophication

L:05 **Title:** The application of a biophysical model to the north Aegean anchovy fishery: its implication for spatial management

Authors: D. V. Politikos, G. Triantafyllou, K. Tsiaras, M. Giannoulaki, A. Machias, C. Maravelias, and S. Somarakis

Keywords: IBM anchovy model, spatial management, north Aegean Sea

L:06 **Title:** Modelling nutrient to fish model – an Eulerian approach

Authors: Wolfgang Fennel and Hagen Radtke

Keywords: 3d-modelling, herring, sprat, cod, predator-prey interaction, fish

migration

L:07 **Title:** *Sepia officinalis*: spawning habitat modelling in the English Channel and its potential for fisheries management

Authors: Isobel Bloor, Charlotte Marshall, Emma Jackson, Jean-Paul Robin, and Martin Attrill

Keywords: English Channel, cephalopod, spawning habitats, fisheries management

L:08 **Title:** Spatial management scenarios for the brown shrimp fisheries in the German Bight: Possible influences of product prices, TAC for plaice and sole, and Nature 2000 management plans

Authors: T. Schulze, V. Stelzenmüller, A. Sell, J. Berkenhagen, and K. Schulte

Keywords: Brown shrimp, marine protection areas, economics, marine spatial planning

[L:09](#) **Title:** Near real time prediction and spatial management of Pacific skipjack tuna

Authors: Patrick Lehodey and Inna Senina

Keywords: ecosystem modelling, population dynamics, pacific skipjack tuna, spatial management

[L:10](#) **Title:** The potential use of operational biochemical models in marine spatial management

Authors: Frank Janssen, Tian Tian, Zhenwen Wan, and Karen Edwards

Keywords: ecosystem model, biochemical model, Baltic Sea, North Sea

[L:11](#) **Title:** Retention of western Baltic herring larvae within the main spawning area

Authors: Robert Bauer, Daniel Stepputtis, and Ulf Gräwe

Keywords: bio-physical modeling, recruitment, larval drift, herring, Baltic Sea, retention, Greifswalder Bodden

L:12 **Title:** Can biophysical individual-based models reliably tell us why most larvae die in the sea?

Authors: Myron A. Peck and Marc Hufnagl

Keywords: Larval fish, IBMs, sensitivity, scenarios, mortality, advection, starvation

L:13 **Withdrawn**

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Theme Session M Assessment and management of Large Marine Ecosystems

Convener: Michael O'Toole (Ireland), Kenneth Sherman (USA), Gotthilf Hempel (Germany), and Yvonne Walther (Sweden)

Papers/Oral Presentations

M:01 **Title:** Changing states and adaptive management actions of the Yellow Sea Large Marine Ecosystem

Authors: Qisheng Tang

Keywords: Large marine ecosystem, Yellow Sea, Changing states, Adaptive management actions, Carbon sink fisheries

[M:02](#) **Title:** Environmental genotoxicity levels in the "Baltic Sea–North Sea–Atlantic" marine system

Authors: Janina Baršienė, Aleksandras Rybakovas, Thomas Lang, Laura Andreikėnaitė, Włodzimierz Grygiel, and Arvo Tuvikene

Keywords: genotoxicity, fish, Baltic Sea, North Sea, Atlantic Ocean

[M:03](#) **Title:** On the way towards the MSFD: sensitivity analysis of size-based fish metrics for the use as indicators in an ecosystem-based assessment framework

Authors: W. N. Probst, H. Fock, V. Stelzenmüller, and M. Kloppmann

Keywords: large fish indicator, length-frequency distribution, assessment, marine strategy framework directive, viability analysis

[M:04](#) **Title:** Main bio-productivity features of the western Arctic LMEs

Authors: G. G. Matishov, P. R. Makarevich, E. I. Druzhkova, O. V. Karamushko, and O. S. Lyubina

Keywords: Arctic, bio-productivity, LME, P/B-coefficient

[M:05](#) **Title:** Assessing pelagic fish stocks from acoustic and trawl survey data in the Baltic Sea

Authors: Jarno Vanhatalo, Teppo Juntunen, Heikki Peltonen, and Samu Mäntyniemi

Keywords: acoustic survey, Bayesian spatial modeling, Gaussian process, multispecies

[M:06](#) **Title:** Chloropigments-*a* in sediments in coastal zone as markers of eutrophication and environmental conditions

Authors: Małgorzata Szymczak-Żyła, Grażyna Kowalewska, and J. William Louda

Keywords: chloropigments-*a*, sediments, eutrophication, depositional conditions

M:07 **Title:** Towards holistic ecosystem assessments – achievements of the ICES/HELCOM Working Group on Integrated Assessments of the Baltic Sea (WGIAB)

Authors: Christian Möllmann, Lena Bergström, Thorsten Blenckner, Juha Flinkman, Anna Gårdmark, Martin Lindegren, and Bärbel Müller-Karulis

Keywords: Baltic Sea, holistic ecosystem assessments, ecosystem regime shifts, ecosystem modelling, ecosystem-based management

M:08 **Title:** The Celtic Sea and Bay of Biscay and Western Iberian regions: how they differ from most other LMEs and why that difference should be valued.

Authors: Dave Reid, Maria Fatima Borges, Pascal Laffargue, and Enrique Nogueira

Keywords: LME, Celtic Sea, Biscay, Western Iberia, spatial heterogeneity

M:09 **Title:** Implementation of the science plan in the Benguela Current Large Marine Ecosystem

Authors: Dr. Moses Maurihungirie

Keywords: Benguela Current Commission; Ecosystem Advisory Committee; sustainable utilization; transboundary stocks

M:10 **Title:** The Gulf of Mexico Large Marine Ecosystem Project: the way ahead

Authors: Porfirio Alvarez-Torres, Antonio Díaz de Leon-Corral, Jose Ignacio Fernandez- Mendez, Ramon Chavez-Ampan, Carolina Quiroz, Orlando Iglesias, Javier Acevedo, Ivonne Cruz, Susana Hernandez, Leoncio Frias, and Rafael Arreola

Keywords: Gulf of Mexico, Large Marine Ecosystem, Ecosystem-Based Management

[M:11](#) **Title:** Organic contaminants in sediments as indicators of pollution – a case study of the Gulf of Gdańsk

Authors: Grażyna Kowalewska, Anna Filipkowska, Ludwik Lubecki, and Małgorzata Szymczak-Żyła

Keywords: organic pollutants, indicators, sediments, Baltic Sea

[M:12](#) **Title:** Reversing the degradation of the Canary Current Large Marine Ecosystem

Authors: Birane Sambe, Birgitta Liss Lymer, Ana Maria Caramelo, and Merete Tandstad

Keywords: Canary Current, Ecosystem, Fisheries, Transboundary

M:13 **Title:** The application of MSFD indicators in the Baltic Sea: How good are they?

Authors: Daniel Oesterwind and Christian von Dorrien

Keywords: Marine Strategy Framework Directive, Indicator, Descriptor, Baltic Sea, Large Fish Indicator

M:14 **Title:** Decision-support for the economic analysis of trade-offs in Coastal and Marine Spatial Planning (CMSP) for the US Northeast Shelf LME

Authors: Porter Hoagland and Di Jin

Keywords: coastal and marine spatial planning; trade-offs; regional economic models; Northeast Large Marine Ecosystem

[M:15](#) **Title:** Best practices for assessments of LMEs (and larger)

Author: Jake Rice

Keywords: none

M:16 **Withdrawn**

M:17 **Title:** MESMA: Methodology for assessing the management of marine areas

Authors: R. ter Hofstede, A. Pajmans, O. Box, J. van Dalssen, P. Jones, S. Katsanevakis, G. Sutton, M. Rabaut, F. Thomsen, V. Stelzenmüller, and M. Vincx

Keywords: Marine Spatial Management, MSP, ecosystem-based approach, governance, sustainable development, SMA, CFP, MSFD

M:24 **Title:** Assessing changing states of Large Marine Ecosystems

Authors: Kenneth Sherman

Keywords: none

Posters

[M:18](#) **Title:** Interannual dynamics of zooplankton in the Canary Current Ecosystem

Author: V. V. Lidvanov

Keywords: none

[M:19](#) **Title:** Primary productivity and eutrophication in two different types of Large Marine Ecosystems – the Baltic Sea and the Canary Current

Author: Sergey Aleksandrov

Keywords: Canary Current, Baltic Sea, primary productivity, eutrophication

[M:20](#) **Title:** Flying fishes, marine birds, and elasmobranchs as integrated biological indicators of LMEs' boundaries and their spatial and temporal changes

Authors: Feodor Litvinov and Oleg Krasnoborodko

Keywords: Eastern Pacific and Atlantic; biological indicators of LMEs boundaries; flying fishes, seabirds and elasmobranches

M:21 **Title:** Who eats whom? Insights into the complex food web of Chesapeake Bay

Authors: Maja Walter, Muriel-Marie Kroll, and Ute Jacob

Keywords: Food web, Connectance, trophic interactions, Chesapeake Bay, cross-system comparison

M:22 **Title:** A two-stage biomass model to assess the English Channel cuttlefish stock

Authors: Michael Gras, Beatriz Roel, Franck Coppin, Eric Foucher, and Jean-Paul Robin

Keywords: Cuttlefish, *Sepia officinalis*, Stock assessment, Abundance index, English Channel, CPUE, Celtic Biscay shelf

M:23 **Withdrawn**

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Theme Session N The future of marine fish stocks and food webs – advancing methods for projections in the face of uncertainty

Conveners: Anna Gårdmark (Sweden), Christian Möllmann (Germany), and Charles Stock (USA)

Papers/Oral Presentations

[N:01](#) **Title:** Predicting recovery trajectories for the large species and large fish indicators

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

Keywords: community structure, Large Fish Indicator, Northeast Atlantic, recovery

[N:02](#) **Title:** A size-based modelling approach for the evaluation of ecological indicator performance under changing fishing pressure

Authors: Jennifer E. Houle, Keith D. Farnsworth, Axel G. Rossberg, and David G. Reid

Keywords: ecological indicators, marine community model, size-spectrum, ecosystem approach to fisheries management

[N:03](#) **Title:** Scenarios of ecological and economic consequences of rebuilding paths of depleted populations

Authors: Núria Calduch-Verdiell, Ken H. Andersen, Brian R. MacKenzie, Lars Ravn-Jonse, and James W. Vaupel

Keywords: Overfishing, rebuilding plan, big old fecund female (BOFF), age-stock structure, cost-benefit analysis, maximum sustainable yield

N:04 **Title:** Estimating the minimum commercially viable population size and the maximum viable body size of harvested species

Author: Matthew G. Burgess

Keywords: extinction risk, global, minimum commercially viable population size, maximum viable body size

[N:05](#) **Title:** An end-to-end model of a coastal upwelling system: propagation of lower trophic level variability to upper trophic levels in the Northern California Current

Authors: James J. Ruzicka, John H. Steele, Marisa N.C. Litz, William T Peterson, Richard D. Brodeur, and Thomas C. Wainwright

Keywords: Northeast Pacific, NPZD model, food web model, propagation of uncertainty

N:06 **Title:** Biological ensemble modelling to improve marine science and ecosystem-based management

Authors: Anna Gårdmark, Martin Lindegren, Stefan Neuenfeldt, Thorsten Blenckner, Eero Aro, Outi Heikinheimo, Bärbel Müller-Karulis, Susa Niiranen, Maciej Tomcz, Anders Wikström, and Christian Möllmann

Keywords: ensemble modelling, Baltic cod, ecosystem-based management, climate change

N:07 **Title:** Ecological-economic multi-species management of the Baltic Sea fisheries: tradeoffs between objectives in an ecosystem context

Authors: Rudi Voss, Jörn O. Schmidt, Maciej T. Tomczak, Martin F. Quaas, and Thorsten Blenckner

Keywords: Baltic Sea, ecological-economic model, multi-species

[N:08](#) **Title:** What is the dominating contribution to the density-dependence of fish population growth?

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

Keywords: carrying capacity, density-dependence, stock-recruitment relations

N:09 **Title:** Bayesian learning and updating in selecting catch-at-age stock-assessment models and its implications for population projections in the face of uncertainty

Authors: Yan Jiao, Donald J. Orth, Eric P. Smith, and Robert L. O'Reilly

Keywords: Bayesian model averaging, statistical-catch-at-age, Bayesian learning, population projection

N:10 **Title:** Influence of possible long-term environmental condition development scenarios on Baltic cod stock and recruitment dynamics

Authors: Maris Plikshs and Bärbel Müller-Karulis

Keywords: Baltic Sea, cod, reproductive volume, long-term predictions

Posters

[N:11](#) **Title:** Signatures of fishing on marine food web structure

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

Keywords: biodiversity, food web, Northeast Atlantic, productivity

[N:12](#) **Title:** State of fish food supply in the eastern part of the Gulf of Finland in 2010

Authors: Olga N. Susloparova, Yuri A. Zuyev, and Vera A. Ogorodnikova

Keywords: food supply, zooplankton, zoobenthos, the Gulf of Finland

N:13 **Title:** Diet of Cunene horse mackerel (*Trachurus trecae*) off Angola

Authors: Henriette Lutuba Nsilulu, Filomena Vaz-Velho, and Carl Van Der

Lingen

Keywords: Cunene horse mackerel, feeding periodicity, rate of gut evacuation, Angola

N:14 **Title:** Predicting ecosystem response to decadal-scale climate variability using an end-to-end ecosystem model

Authors: Kelly A. Kearney, Charles Stock, and Jorge L. Sarmiento

Keywords: end-to-end model, subarctic Pacific, climate variability

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Theme Session O

Surplus production models: quantitative tools to manage exploited fisheries and compare the productivity of marine ecosystems

Conveners: Ken Drinkwater (Norway), Jason Link (USA), and Jennifer Boldt (Canada)

Papers/Oral Presentations

O:01 **Withdrawn**

[O:02](#) **Title:** A new quantitative tool for stock assessment

Authors: Saang-Yoon Hyun

Keywords: exploitable abundance, maximum sustainable yield, over-parameterization problem

O:03 **Title:** Contrasts across levels of aggregation, ecosystems and drivers: lessons learned from fisheries production estimates in 11 northern hemisphere ecosystems

Authors: Jason S. Link, Sarah Gaichas, Thomas J. Miller, Tim Essington, Alida Bundy, Jennifer Boldt, Ken F. Drinkwater, and Erlend Moksness

Keywords: ecosystem comparison, surplus production, multispecies models, aggregate biomass estimates, environmental covariates, fisheries management

O:04 **Title:** The effects and relative importance of fishing, trophodynamic and environmental drivers on ecosystems

Authors: Caihong Fu, Jennifer Boldt, Jason Link, Alida Bundy, Sarah Gaichas, Robert Gamble, Adam Cook, Kjell Rong Utne, Hui Liu, and Kevin Friedland

Keywords: ecosystem comparison, surplus production, multivariate statistical methods, indicators, fisheries management

O:05 **Title:** Modeling long-term population productivity variation using nonstationary surplus production models

Authors: Yan Jiao and Rob O'Reilly

Keywords: Bayesian, non stationary surplus production model, Atlantic weakfish, long-term population dynamics

[O:06](#) **Title:** MSY oriented management of the Baltic Sea herring under regime shifts

Authors: Noel M.A. Holmgren, Niclas Norrström, Robert Aps, and Sakari Kuikka

Keywords: density-dependence, fishing mortality, productivity, sustainability, weight-at-age, yield

O:07 **Title:** Can a full multispecies production model tell us anything single-species

models with covariates can't?

Authors: William T. Stockhausen, Thomas J. Miller, Mariano Koen-Alonso, Timothy E. Essington, Sean M. Lucey, Robert J. Gamble, Jason S. Link, and Sarah K

Keywords: none

O:08 **Title:** Assembly rules for aggregate species production models: simulations in support of management strategy evaluation

Authors: Michael Fogarty, Sarah Gaichas, Hugues Benoit, Tim Essington, Caihong Fu, Robert Gamble, Mariano Koen-Alonso, and Jason Link

Keywords: none

O:09 **Title:** Simulating the triad of drivers with MS-PROD, a multispecies production model

Authors: Robert Gamble, Jason Link, Michael Fogarty, Sarah Gaichas, Janet Nye, Hugues Benoit, and Tim Essington

Keywords: none

O:10 **Title:** Comparison of surplus production estimates with and without environmental co-variates: patterns for functionally aggregated groups across ten large marine ecosystems in the northern hemisphere

Authors: Sean M. Lucey, Robert J. Gamble, Thomas J. Miller, William T. Stockhausen, Jennifer L. Boldt, Dag O. Hjermann, Kevin Friedland, and Jason S. Link

Keywords: none

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Theme Session P

The interface between management and science - moving forward

Conveners: Kjartan Hoydal (NEAFC), Ásmundur Guðjonsson (NMC), and Hans Lassen (Denmark)

Papers/Oral Presentations

P:01 **Title:** Development of a Revised Approach to Providing Fish Stock Assessment Advice in the northeast region of the United States

Authors: James R. Weinberg, Richard Merrick, Fredric Serchuk, Paul Rago, and George Darcy

Keywords: fishery science, stock assessment, fishery management, US Northeast Region

P:02 **Withdrawn**

[P:03](#) **Title:** Co-production of science and policy – how does it works?

Authors: R. Aps, M. Fetissov, and Ü. Suursaar

Keywords: co-production of science and policy, hybrid management, Boundary Object Framework

P:04 **Title:** The added value of participatory modelling in fisheries management. What have we learned?

Authors: Christine Röckmann, Clara Ulrich, Marion Dreyer, Kjellrun Hiis Hauge, Edward Borodzicz, Daniel Howell, Ewen Bell, Päivi Haapasaari, Samu Mäntyniemi, George Tserpes, and Martin Pastoors

Keywords: EU waters, participatory modelling, uncertainty, JAKFISH

[P:05](#) **Title:** The TAC fallacy

Author: Kjartan Hoydal

Keywords: fishing mortality, fisheries management, scientific management advice, management tools, social and economic consequences of management measures

P:06 **Title:** Arms length science: a communicative action approach to understanding the organizational challenges

Author: D. C. K. Wilson

Keywords: boundary objects; theory of communicative action; science-policy interface; Europe

P:07 **Withdrawn**

P:08 **Title:** A product of procedure? The apparent disconnect between science and management in New England

Authors: Emily F. Keiley and Brian J. Rothschild

Keywords: management system, objectives, constraints, institutional arrangements

[P:09](#) **Title:** A Risk-Based Interface Between Science and Management in the U.S. Fisheries System

Authors: Steven X. Cadrin and Daniel L. Georgianna

Keywords: fishery management, risk, overfishing

[P:10](#) **Title:** The advantages of proactive management over reactive regulations for implementing accountability in the US sea scallop fishery

Author: Catherine E. O'Keefe and Steven X. Cadrin

Keywords: fisheries management, Accountability Measures, sea scallops

[P:11](#) **Title:** 21st century fisheries management: a spatio-temporally explicit tariff-based approach combining multiple drivers and incentivising responsible fishing

Authors: Sarah Kraak, Dave Reid, and Mike Fitzpatrick

Keywords: Fisheries management, incentives, EAFM, tariffs

[P:12](#) **Title:** Developing science for result-based management in fisheries – a digression?

Authors: Mogens Schou

Keywords: Result based management; Catch-Quota Management (CQM); full documentation; North Atlantic; EU fisheries policy

[P:13](#) **Title:** New demands for science and other stakeholders in fisheries governance: implications of a “Reversed Burden of Proof” under a revised CFP

Author: Sebastian Linke

Keywords: fisheries governance, stakeholder involvement, CFP reform, reversing the burden of proof

P:14 **Title:** On The Same Team: A Focus Group For Improving The Management Of Blue Whiting

Authors: David C. M. Miller and [Aukje Coers](#)

Keywords: Blue whiting, Pelagic Regional Advisory Council, Assessment, Management

[P:15](#) **Title:** Fisheries ecosystem plans: how will they work and what data do we need?

Authors: H. J. Bloomfield *et al.*

Keywords: sustainability; fisheries; ecosystem; stakeholder; management; knowledge base

P:16 **Title:** “Pretty good governance”: combining analytic hierarchy process, cognitive mapping and participatory modelling to assist in choosing and applying fisheries management solutions.

Authors: Mike Fitzpatrick and David G. Reid.

Keywords: fisheries governance, participatory modelling

[P:17](#) **Title:** The COEXIST project – governance of fisheries and aquaculture for integrating management and science

Authors: Anne Marie O'Hagan and Vicki O'Donnell

Keywords: Europe, governance, aquaculture, management

[P:18](#) **Title:** Bringing multiple stakeholders together in the management of marine fisheries: the role of plan development teams in New England sector management

Author: Anne Hawkins

Keywords: fisheries management, policy, science/management interface, New England

[P:19](#) **Title:** Public opinion and a new vision for Europe's seas

Authors: Laurence Mee, Tavis Potts, Cristina Pita, Olivia Langmead and Tim O'Higgins

Keywords: Public opinion; ecosystem services, ecosystem approach to management, European Seas

P:20 **Title:** National standards effective in US fisheries management

Author: Sharon Lumsden

Keywords: Fisheries management, United States Laws

P:21 **Title:** The science – management interaction on the Faroe Islands: A case study and proposal for changes

Author: Hans Lassen

Keywords: none

P:22 **Title:** The role of science as fisheries and biodiversity policies and programs converge

Author: Jake Rice

Keywords: none

P:23 **Title:** The ICES precautionary approach: failed attempts to neatly arrange the boundary between science and policy

Author: Martin Pastoors



Keywords: none

Posters

[P:24](#) **Title:** An adaptative management in Polish inner marine waters

Authors: I. Psuty, T. Krajniak, L. Szymanek, B. Draganik, M. Ramutkowski, and A. Czugała

Keywords: small scale fishery, TAC, MPA's, selectivity, lagoon

[P:25](#) **Title:** Knowledge engineering to improve the interface between stakeholders and management in the ecosystem approach to fisheries management

Author: Deirdre Duggan

Keywords: ecosystem approach, "common language" indicators, stakeholders, management interface

[P:26](#) **Title:** The role of science in improving bycatch management in a high-volume fishery

Authors: Jamie M. Cournane and Jake P. Kritzer

Keywords: New England, bycatch mitigation, anadromous fish, herring

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Theme Session Q

Atmospheric forcing of the northern hemisphere ocean gyres, and the subsequent impact on the adjacent marine climate and ecosystems (Joint ICES/PICES theme session)

Conveners: Jürgen Alheit (Germany), Hjálmar Hátún (Faroe Islands), Emanuele Di Lorenzo (USA), and Ichiro Yasuda (Japan)

Papers/Oral Presentations

- Q:01 **Withdrawn**
-
- Q:02 **Title:** Oceanic and atmospheric forcing for the recruitment of Japanese sardine (*Sardinops melanostictus*)
-
- Authors:** Ichiro Yasuda, Haruka Nishikawa, Sachihiko Itoh, and Kosei Komatsu
-
- Keywords:** Japanese sardine, Northwestern Pacific, Kuroshio
-
- Q:03 **Title:** Climate-driven shifts in fish communities in Korean waters detected by application of multivariate analyses and Bayesian Markov switching models
-
- Authors:** Sukgeun Jung, Il Su Choi, and Suam Kim
-
- Keywords:** regime shift, climate change, Tsushima warm current, fish, western North Pacific
-
- Q:04 **Title:** Climatically induced impact of gyre dynamics on coastal ecosystems: a comparison of different oceans
-
- Author:** Jürgen Alheit
-
- Keywords:** Oceanic gyres, climate variability, North Atlantic and Pacific, fish, zooplankton
-
- Q:05 **Title:** Atmospheric forcing of the North Atlantic Subpolar gyre
-
- Author:** Hjálmar Hátún
-
- Keywords:** subpolar gyre, atmospheric forcing, blue whiting, forecasting
-
- [Q:06](#) **Title:** Regime shift effects on fish and fisheries in the Northeast Pacific
-
- Authors:** Anne Hollowed, Megan Stachura, Nate Mantua, and Ray Hilborn
-
- Keywords:** regime shifts, gyre circulation, recruitment variability
-
- Q:07 **Title:** The Pacific Decadal Oscillation and gyre-ecosystem linkages in the northern California Current (NCC): source waters which feed the NCC determine food web structure
-
- Authors:** William T. Peterson, Hongsheng Bi, Cheryl A. Morgan, Jennifer Fisher, Jay Peterson, and Ryan R. Rykaczewski
-
- Keywords:** Pacific Decadal Oscillation, transport, gyre-ecosystem linkages, copepod community structure
-

Q:08 **Title:** Exploring mechanisms for coherent variations between ocean gyres of the northern hemisphere

Authors: Emanuele Di Lorenzo and Niklas Schneider

Keywords: none

Q:10 **Title:** A PICES–ICES climate mode

Author: Skip McKinnell

Keywords: none

Posters

Q:09 **Title:** Influence of circulation variability on Scotian Shelf (Northwest Atlantic) zooplankton communities

Author: Catherine L. Johnson

Keywords: zooplankton, biogeography, advection, North Atlantic Oscillation

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Theme Session R

Integration of multidisciplinary knowledge in the Baltic Sea to support science-based management

Conveners: Sakari Kuikka (Finland), Michael Gilek (Sweden), Kari Lehtonen (Finland), and Markus Meier (Sweden)

Papers/Oral Presentations

[R:01](#) **Title:** Investigation of spatial–temporal patterns of the eastern cod stock in the Baltic Sea for management application

Authors: S. Kasatkina and P. Gasyukov

Keywords: Baltic cod, spatial –temporal distribution, recruitment, trawl and acoustic surveys

[R:02](#) **Title:** Assessment of genetic risk in fishes inhabiting zones of dumped chemical munitions in the Baltic Sea

Authors: Janina Baršienė, Aleksandras Rybakovas, Thomas Lang, Laura Andreikėnaitė, and Włodzimierz Grygiel

Keywords: genotoxicity, fish, dumped chemical munitions, Baltic Sea

[R:03](#) **Title:** First attempt to use trends assessment in the Gulf of Gdansk: an ecosystem–integrated approach

Authors: Tomczak, M. T., Szymanek, L., Margoński, P., Ameryk, A., Gromisz, S., Grygiel, W., Grzebielec, R., Kownacka, J., Kuzebski, E., Pastuszek, M., Psuty, I., Warzocha, J., and Zalewski, M. (names updated)

Keywords: Gulf of Gdańsk, ecosystem change, Integrated Trend Assessment

[R:04](#) **Title:** Science–policy interfaces and the governance of environmental risks in the Baltic Sea

Authors: Michael Gilek, Sebastian Linke, Oksana Udovik, and Mikael Karlsson

Keywords: Baltic Sea, scientific advice, risk management, risk assessment

[R:05](#) **Title:** Baltic herring and Anisakis simplex larvae: acetylcholinesterase biomarker response and host-parasite interactions in a polluted environment

Authors: M. Podolska, K. Nadolna, B. Szostakowska, A. Was, and E. Gosz

Keywords: Anisakis simplex; herring; acetylcholinesterase

R:06 **Withdrawn**

[R:07](#) **Title:** The usefulness of information on infection of herring with A. simplex larvae in management of Baltic herring stock

Authors: J. Horbowy and M. Podolska

Keywords: herring, migration, stock assessment, Baltic

R:08 **Title:** PBDE levels, profiles, inter-tissue distribution, and BSAFs in female flounder from the southern Baltic Sea

Authors: Ilona Waszak, Henryka Dąbrowska, and Agnieszka Antoniak

Keywords: PBDEs, flounder, BSAFs, Baltic Sea

[R:09](#) **Title:** Challenges for stakeholder participation and communication within regional environmental governance. Comparing five environmental risks in the Baltic Sea

Authors: Magnus Boström, Marion Dreyer, and Anna Maria Jönsson

Keywords: Baltic Sea, Governance, Participation, Communication

[R:10](#) **Title:** Changes in the annual life cycle of eastern Baltic cod during 1950–2010

Authors: T. Barinova, B. Müller-Karulis, I. Šics, and M. Plikhs

Keywords: Eastern Baltic cod, maturation, spawning, otolith growth zones

[R:11](#) **Title:** A stochastic model to evaluate the impacts of nutrient abatement measures in the Baltic Sea

Authors: Lassi Ahlvik, Kari Hyytiäinen, Petri Ekholm, and Heikki Pitkänen

Keywords: Eutrophication, Nutrient pollution, Stochastic modelling, Baltic Sea

[R:12](#) **Title:** Reference organisms for assessing the impact of ionising radiation on the southern Baltic environment

Authors: Tamara Zalewska and Maria Suplińska

Keywords: ionising radiation impact assessment, marine organisms, Baltic Sea

[R:13](#) **Title:** Converging biology, economics and social science in fisheries research – lessons learned

Authors: Päivi Haapasaari, Soile Kulmala, and Sakari Kuikka

Keywords: Bayesian networks, interdisciplinarity, learning, multidisciplinary

[R:14](#) **Title:** Dynamics of the key food-web flows in the central Baltic Sea

Authors: M. T. Tomczak, S. Niiranen, T. Blenckner, and O. Hjerne

Keywords: Central Baltic Sea, food-web, trophic flows, model

R:15 **Title:** Target-strength relationship for herring and sprat in the southern Baltic Sea

Authors: Beata Schmidt, Natalia Gorska, and Joanna Szczucka

Keywords: acoustic survey, Baltic Sea, target strength, sprat, herring

-
- [R:16](#) **Title:** The possible sources of conflicts between nature protection and Polish coastal fishery. The Pucka Bay case
-
- Authors:** I. Psuty, B., Draganik, L. Szymanek, I. Wójcik, and R. Zaporowski
-
- Keywords:** small scale fishery, gillnet, porpoise, grey seal, NATURA 2000
-
- R:17 **Title:** An integrated assessment of pollution and biological effects of the southern Baltic Sea coastal waters
-
- Authors:** H. Dabrowska, A. Antoniak, O. Kopko, R. Turja, K. K. Lehtonen, M. Balode, E. Strode, K. Broeg, B. Sundelin, M. Löf, J. Šyvokien, S. Kholodkevich, T. Kuznetsova, A. Kurakin, S. Sladkova, and N. Kamardin
-
- Keywords:** Baltic Sea, anthropogenic stress, biomarkers, ecosystem assessment
-
- R:18 **Title:** Projected Baltic Sea ecosystem changes in future climates
-
- Authors:** H.E.M. Meier, H. Andersson, C. Dieterich, K. Eilola, B. Gustafsson, A. Höglund, R. Hordoir, I. Kuznetsov, T. Neumann, O. Savchuk, and S. Schimanke
-
- Keywords:** Baltic Sea, eutrophication, climate change, modelling
-
- R:19 **Title:** Herring as a link among pressures in multidimensional ecosystem management
-
- Authors:** Mika Rahikainen, Samu Mäntyniemi, Inari Helle, and Sakari Kuikka
-
- Keywords:** Bayesian assessment, risk, herring, Baltic Sea
-
- [R:20](#) **Title:** Experiences on ecological status assessment of the Gulf of Bothnia different sites based on cardiac activity biomarkers of caged mussels (*Mytilus edulis*)
-
- Authors:** S. V. Kholodkevich, T. V. Kuznetsova, K. K. Lehtonen, and A. S. Kurakin
-
- Keywords:** none
-
- R:21 **Title:** Cross-scale linkages and tradeoffs in multi-level water governance – a case study from the northern Baltic Sea river basin district
-
- Authors:** Monica Hammer, Mona Petersson, Ulla Mörtberg, and Jerker Jarsjö
-
- Keywords:** Water Framework Directive, ecosystem approach, data and information management
-
- [R:22](#) **Title:** Cadastre of the coastal zone of the Russian sector of the Baltic Sea – integrated information system.
-
- Authors:** V. Zhamoida, D. Ryabchuk, B. Arseniev, G. Gogoberidze, and V. Sivkov
-
- Keywords:** coastal zone, cadastre, information system, Baltic Sea
-
- R:23 **Title:** Stakeholders' participation and communication in invasive alien species risk governance in the Baltic Sea region
-
- Authors:** A. Zgrundo, P. Lemke, K. Smolarz, D. Pyć, Ch. Halling, and M.
-

Wołowicz

Keywords: Baltic Sea, alien species, risk communication, risk governance

R:24 **Withdrawn**

[R:25](#) **Title:** Policy-driven non-compliance in the Baltic Sea pelagic fishery

Authors: Hentati-Sundberg J, Hjelm H, Österblom H

Keywords: non-compliance, Baltic Sea, pelagic fishery, incentives, policy

Posters

[R:26](#) **Title:** Selected highlights from the ECOSUPPORT project

Authors: The ECOSUPPORT consortium

Keywords: climate change, ecosystem drivers, eutrophication, modelling, physical-biogeochemical, food web model

[R:27](#) **Title:** Long-term changes of macrozoobenthos in the deep part of the Gdansk Basin (Baltic Sea)

Authors: A. A. Gusev and L.V. Rudinskaya

Keywords: none

R:28 **Title:** On the acoustic estimation of Baltic herring biomass

Authors: Natalia Gorska and Jakub Idczak

Keywords: herring, Baltic Sea, X-ray images, numerical modeling, target strength

R:29 **Title:** Management strategy evaluation of MSY fisheries with combined catch-and-effort quotas

Authors: Noel M. A. Holmgren, Niclas Norrström, Robert Aps, and Sakari Kuikka

Keywords: MSY, harvest control rule, SCAA, TAC, productivity, sustainability, yield

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Theme Session S

Extracting energy from waves and tides – what are the consequences for ecosystems, physical processes and other sea users

Conveners: Jonathan Side (UK) and Michael Bell (UK)

Papers/Oral Presentations

[S:01](#) **Title:** Accommodating wave and tidal energy - knowledge transfer and the role of marine spatial planning

Authors: Kate Johnson and Sandy Kerr

Keywords: Wave and tidal energy; Knowledge transfer; Marine Spatial Planning

[S:02](#) **Title:** Marine Scotland Science: contribution of bathymetric surveys to marine planning for renewable energy developments off the west coast of Lewis

Authors: P. J. Hayes, M. Harrald, and I. M. Davies

Keywords: Renewable energy, marine spatial planning, bathymetry, geodatabase

[S:03](#) **Title:** Regional sea bed habitat mapping contributing to planning for marine renewable energy development

Authors: M. Harrald, P. J. Hayes, and I. M. Davies

Keywords: Lewis, backscatter, bathymetry, habitat map

[S:04](#) **Title:** Disturbances of natural physical fields by technical activities and their implications for marine life: the case of the Baltic Sea

Authors: Eugeniusz Andrulowicz and Zbigniew Otremba

Keywords: Baltic Sea, technical constructions, physical fields, environmental disturbances

[S:05](#) **Title:** Seabird surveys at the wave energy test site, Co Mayo, Ireland

Authors: Jackie Hunt, Jessica Beaubier, and Derek McLoughlin

Keywords: none

S:06 **Title:** Benthic monitoring at Strangford Lough Narrows in relation to the installation of the SeaGen current turbine

Authors: Robert Kennedy and Graham Savidge

Keywords: Ireland, tidal energy, ecological impact, benthic community

S:07 **Title:** Ornithological interactions with wave and tidal energy developments in Scotland – filling the knowledge gaps

Authors: Ross McGregor, Andy Douse, George Lees, and Ian Davies

Keywords: birds, impacts, renewable energy

[S:08](#) **Title:** Coastal process impact assessment in relation to offshore wave energy development

Authors: Jimmy Murphy

Keywords: Wave Energy, Physical Processes, Ireland

[S:09](#) **Title:** Sources of underwater noise and disturbance arising from marine renewable developments

Authors: Jonathan Side and Robert Beharie

Keywords: underwater noise; wave energy; tidal energy; marine mammals

S:10 **Title:** Facilitation of wave and tidal power developments through the application of a spatial planning approach

Authors: Ian M. Davies, Marion Harrald, Mike Robertson, and Robert Watret

Keywords: Renewable energy, wave and tidal, marine spatial planning, Saltire Prize, Scotland

S:11 **Title:** Assessment of collision risk for seals and tidal stream turbines

Authors: Ian M. Davies and Fiona Thompson

Keywords: Tidal energy, seals, collision risk, Appropriate Assessment

S:12 **Title:** Test centre to commercial arrays: progress towards wave and tidal energy in Scotland

Authors: Ian M Davies, Mike Robertson, Gareth Jones, Robert Watret, and Jim McKie

Keywords: Tidal energy, wave energy, Scotland, commercial scale

S:13 **Title:** Fish distributions around structures in fast currents: natural and man-made proxies for tidal stream energy devices

Authors: I. M. Horsfall, J. Loman and T. D. Pritchard

Keywords: tidal stream turbines, fast currents, fish distributions, proxy structures

[S:14](#) **Title:** Hydrokinetic energy as an ecological factor – how might wave and tidal energy extraction affect the distribution of marine organisms?

Authors: M. C. Bell, E. P. M. Grist, S. Baston, S. Rouse, M. Spencer Jones, J. S. Porter, A. Want, R. Harris, and J. C. Side

Keywords: wave energy, tidal energy, marine biogeography, ecological impacts

S:15 **Title:** Bryozoans as an indicator for ecosystem change in relation to renewable energy devices and climate change: a case example from Scottish coastal waters

Authors: S. Rouse, M. Spencer Jones, J. S. Porter, J. C. Side, and M. C. Bell

Keywords: Bryozoa, marine renewable energy, biodiversity, ecosystem change

[S:16](#) **Title:** Monitoring marine habitats of West Mainland Orkney: will wave energy extraction contribute to long-term change?

Authors: A. Want, M. C. Bell, and J. C. Side

Keywords: Rocky Shoreline, Wave Energy, Ecological Monitoring, Climate Change

[S:17](#) **Title:** Wave energy converters, sediment transport and coastal erosion

Authors: Arne Vögler, David Christie, Malcolm Lidster, and James Morrison

Keywords: Sediment transport, wave energy converters, coastal erosion, Outer Hebrides

[S:18](#) **Title:** SOWFIA: learning from impact assessments of European wave energy developments

Authors: Ruth Leeney, Daniel Conley, Anne Marie O'Hagan, Brian Holmes, Cristina Huertas Olivares, Victoria Osta, and Deborah Greaves

Keywords: wave energy, environmental impact assessment, socio-economic impacts, Europe

[S:19](#) **Title:** A modelling study of the effect of tide energy extraction on estuarine circulation and its implications of changes in the marine ecosystem

Authors: Zhaoqing Yang, Taiping Wang, and Andrea Copping

Keywords: tidal energy extraction, numerical model, physical processes

S:20 **Title:** Incorporating easily disposable components into the design of small-scale marine hydrokinetic energy converters

Authors: A. Johnson and B. Silvera

Keywords: marine hydrokinetic energy, small-scale, disposable components, environmental impact, design strategy

Posters

[S:21](#) **Title:** A simulation modelling approach to predicting the impact on seabirds of generating power from waves and tides

Authors: R. Langton, I. M. Davies and B. E. Scott

Keywords: Seabirds, Renewable Energy, Modelling, Scotland

S:22 **Title:** A comparative study of three methods for the derivation of seabed habitat information from multibeam acoustic backscatter data.

Authors: M. R. Robertson, M. Harrald, T. LeBas, P. J. Hayes and I. M. Davies

Keywords: multibeam acoustic survey, bathymetric maps, backscatter, facies maps, Fair Isle, Special Protection Area

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- [S:23](#) **Title:** Quantification of littoral wave action to establish the influence from wave energy converters
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- Authors:** Robert A. Beharie and Jon Side
-
- Keywords:** Wave action; Exposure; Rocky shore; Hydrodynamics; Classification systems; Littoral ecology
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- [S:24](#) **Title:** An inventory of future combinations of aquaculture, fisheries and other activities
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- Authors:** Marnix Poelman and Bas Bolman
-
- Keywords:** Aquaculture, Coastal Zone Management, Multifunctional use, future combinations
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- S:25 **Title:** Visual and acoustic monitoring of cetaceans at the wave energy test site, Co Mayo, Ireland
-
- Authors:** Simon Berrow and Joanne O'Brien
-
- Keywords:** wave energy, Ireland, marine mammals, acoustic monitoring
-
- [S:26](#) **Title:** Mapping fisheries for marine resource management using gear-specific vessel monitoring system data
-
- Authors:** Kilian M. Stehfest, Maria S. Campbell, Stephen C. Votier and Jason M. Hall-Spencer
-
- Keywords:** Fisheries, marine renewable energy, Marine Spatial Planning
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