Monday 12th March, 2007
BOTTOM UP VS TOP-DOWN EFFECTS ON ECOSYSTEMS
MORNING SESSION

CHAIR: Ole Arve Misund

Opening addresses

0830 Torstein Pedersen and Jarle Aarbakke

Invited speakers

0900 William R. Fraser Bottom-up vs top-down effects on ecosystems

0930 Natalia Yaragina and Andrey Dolgov Resilience of feeding habitats and major trophodynamic pathways

1000-1030 BREAK

1030 Dag L. Aksnes
Optical properties as forcing for marine ecosystem dynamics (4)

1045 Hans Chr Eilertsen, A. Grimsrud and M. Degerlund
A revision of the Barents Sea primary production nitrogen budget: indications of temperature regulation of nitrate utilization efficiency (7)

1100 Svein Kristiansen
New production and biogenic silicon production in the Nordic Seas (77)

1115 Geir Huse, M. Skogen, E. Svendsen and K.Y. Børsheim
Modelling phytoplankton-zooplankton interactions in the Norwegian Sea (32)

1130 Paul Renaud, E. N. Morata, M. L. Carroll, S. Denisenko and M. Reigstad
Pelagic-benthic coupling in the western Barents Sea: processes and time scales (105)

1145 Anna Pasternak, E. Arashkevich, P. Wassmann, M. Reigstad and S. Falk-Petersen
Zooplankton grazing impact in the Barents Sea, with special reference to the role of the sub-mesozooplankton (101)

1200 Kai Wieland, J.M. Casas, C. Fuentes-Yaco, P. Koeller, D. Orr, T. Platt and U. Skúladóttir
Dynamics of North Atlantic populations of Northern shrimp (*Pandalus borealis*): bottom-up *versus* top-down effects (62)

1215 Stig Falk-Petersen, T. Haug, K. T. Nilssen, H. Hop and A. Wold
The origin and fate of lipids in Arctic marine ecosystems: the energy transfer from phytoplankton to harp and hooded seals off East Greenland (133)

1230 Lyne Morissette and M. Castonguay
Contrasting changes in two Gulf of St. Lawrence ecosystems associated with the groundfish stock collapse (86)

1245-1400 LUNCH

Monday 12th March, 2007
BOTTOM UP VS TOP-DOWN EFFECTS ON ECOSYSTEMS
AFTERNOON SESSION

CHAIR: George Hunt

1400 **Per Fauchald, M. Mauritzen and H. Gjøsæter**
Spatial interactions in the Barents Sea ecosystem (56)

1415 **Dag Ø. Hjermann, G. Ottersen, A. M. Eikeset and N. C. Stenseth**
The cod-capelin interaction and effects of fisheries and climate (124)

1430 **Cecilie T.Å. Broms, W. Melle and J. K. Horne**
Factors affecting feeding migration of planktivorous fish in an oceanic ecosystem (46)

1445 **Höskuldur Björnsson and Ó. K. Pálsson**
Changes in the diet of Icelandic cod in recent years (131)

1500 **John Pope, J. Falk-Pedersen, S. Jennings, J. Rice, H. Gislason and N. Daan**
Key factors that structure the fish ecosystem in Boreal Systems (8)

1515 **George L. Hunt Jr and S. McKinnell**
Interplay between top-down, bottom-up, and wasp-waist control in marine ecosystems (67)

1530 – 1600 BREAK

RESILIENCE OF FEEDING HABITATS AND MAJOR TROPHODYNAMIC PATHWAYS

CHAIR: George Hunt

1600 Höskuldur Björnsson and U. Skúladóttir
Interaction between cod and northern shrimp in Icelandic waters (130)

1615 Ulf Lindstrøm, S. Smout, D. Howell and B. Bogstad
Minke whales impact on small-scale prey aggregations with special emphasis on capelin, herring and krill. (80)

1630 Herdis Langøy, L. Nøttestad, G. Skaret, C. B. Årnes and A. Fernö
Feeding ecology of mackerel (*Scomber scombrus*), herring (*Clupea harengus*) and blue whiting (*Micromesistius poutassou*) (78)

1700 Atli Konradsson, T. Pedersen and E. Hallfredsson
Comparison of feeding ecology of 0-group and older herring in the Barents Sea during summer (75)

1715 Irina Prokopchuk
Feeding of the Norwegian spring spawning herring *Clupea harengus* (Linne) at the different stages of its life cycle (103)

1730 Svein Sundby and F. Werner
Growth and recruitment of cod in two different marine ecosystems of the North Atlantic - The Arcto-Norwegian cod and Georges Bank cod (14)

1745 Marianne Nilsen, T. Pedersen, E. M. Nilssen and S. Fredriksen
Trophic relationships in a lightly exploited cod dominated ecosystem, Sørfjord, north Norway (88)

1900 RECEPTION AT THE NORWEGIAN COLLEGE OF FISHERY SCIENCE

Tuesday 13th March, 2007
BEHAVIOR/LIFE-HISTORIES/REPRODUCTION STRATEGIES
MORNING SESSION

CHAIR: Gudrun Marteinsdottir

Invited speakers

0900 **David Conover** Behaviour/life-histories/reproduction strategies

0930 **Thomas J. Miller** Recruitment processes

1000-1030 **BREAK**

1030 **Anders J. Olsen, T. Nordtug, D. Altin and R. Eliassen**
Multi-generation laboratory cultures of *Calanus finmarchicus* (Gunnerus) (91)

1045 **Erica Head**
Overwintering depth distribution of *Calanus finmarchicus* in slope waters of the NW Atlantic continental shelf and the Labrador Sea (134)

1100 **Cecilie T. Å. Broms, W. Melle and S. Kaartvedt**
Oceanic distribution and life cycle of *Calanus* species in the Norwegian Sea and adjacent waters (47)

1115 **Elena Arashkevich, M. Reigstad, A. Pasternak, S. Falk-Petersen and P. Wassmann**
Role of the diatom bloom in the life cycle of *Calanus glacialis* (43)

1130 **Øystein Varpe, C, Jørgensen, G. A. Tarling and Ø. Fiksen**
Zooplankton life-histories: capital and income breeding as reproductive strategies (118)

1145 **Øyvind Fiksen, C. Jørgensen, T. Kristiansen and F. Vikebø**
Behaviour mediates predation and growth rates in larval cod (57)

1200 **Thomas Torgersen**
Implications of planktivore aggregations (115)

1215 **Einar M. Nilssen and M. Aschan**
Life history of shrimp, *Pandalus borealis,* in the Jan Mayen area (89)

1245-1400 **LUNCH**

Tuesday 13th March, 2007

RECRUITMENT PROCESSES
AFTERNOON SESSION

CHAIR: Pierre Pepin

1400 **Einar Svendsen, M. Skogen, P. Budgell, G. Huse, J. E. Stiansen, B. Ådlandsvik, F. Vikebø, L. Asplin and S. Sundby**
An ecosystem modelling approach to predicting cod recruitment (112)

1415 **Gregory Lough and L. J. Buckley**
Recruitment hindcasting of Georges Bank Atlantic cod and haddock stocks using early life history survey data (81)

1430 **Buckley, L. J., R. G. Lough and D. Mountain**
Seasonal trends in mortality and growth of cod and haddock larvae on Georges Bank result in an optimal window for survival. (48)

1445 **Jónas Páll Jónasson, K. Logemann, B. Gunnarsson, D. Brickman and G. Marteinsdóttir**
Abundance and growth of larval cod - passive transport under variable environmental conditions and modelling approaches (136)

1500 **Michaela Aschan**
Spatial and temporal patterns in recruitment of shrimp in the Barents Sea (44)

1530 – 1600 **BREAK**

Continuing: Recruitment processes

1600 **Joël M. Durant, D. Ø. Hjermann, P. Sabarros and N. C. Stenseth**
Food threshold and recruitment (51)

1615 **Stig Skreslet**
Shift from density dependent to density non-dependent larval mortality and recruitment in the NE Arctic cod stock (5)

1630 **Torstein Pedersen and N. Mikkelsen**
The effects of predation and density-dependent early-stage mortality on recruitment to Barents Sea capelin (2)

1645 **Charles A. Aas and T. Pedersen**
The predation impact of juveniles saithe (*Pollachius virens* L.) on juvenile costal cod (*Gadus morhua* L.) and other juvenile fishes (122)

1700 **Elvar H. Hallfredsson and T. Pedersen**
Effects of predation from juvenile herring on mortality rates of capelin larvae in the Barents Sea (123)

1730 **POSTER SESSION**
Refreshments and fingerfood

Wednesday 14th March, 2007
CLIMATIC EFFECTS ON FOOD WEBS
MORNING SESSION A (Auditorium)

CHAIR: Nils Chr. Stenseth

Invited speakers

0900 **Ken Drinkwater** Climatic effects on food webs

0930 **Hans-Harald Hinrichsen** Coupled processes between physics and biology

1000-1030 **BREAK**

Climatic effects on food webs

1030 **Øystein Skagseth, R. Ingvaldsen and H. Loeng**
Inflow at the western entrance of the Barents Sea (37)

1045 **Lars Asplin, P. Budgell, V. Lien, B. Ådlandsvik, R. Ingvaldsen and K. Drinkwater**
Eastward flow in the Barents Sea (35)

1100 **Paul W. Budgell and V. S. Lien**
Numerical hindcast simulations of ice conditions in the Barents Sea (36)

1115 **Randi Ingvaldsen and Ø. Skagseth**
The heat content in the Barents Sea (38)

1130 **Jörg Assmus and W. Melle**
Seasonal cycles and long-term trends of plankton in shelf and oceanic habitats in relation to hydrography and climate variability (31)

1145 **Michael L Carroll, W. G. Ambrose, M. Greenacre, L. Clough, K. McMahon, L. Stinson, J. Edgerly and S. Thorrold**
Arctic bivalves as proxies of local and large-scale climatic variations: analysis of pan-Arctic growth patterns (49)

1200 **Harald Yndestad**
Long tides influence on the climate dynamics and the ecosystem dynamics in the Barents Sea (34)

1215 **Emma L. Orlova, A.V. Dolgov, G.B. Rudneva, I.A. Oganin and L.L. Konstantinova**
Trophic relations of capelin *Mallotus villosus* and polar cod *Boreogadus saida* in the Barents Sea as a factor of impact on ecosystem (98)

1245-1400 **LUNCH**

Wednesday 14th March, 2007
CLIMATIC EFFECTS ON FOOD WEBS
AFTERNOON SESSION A (Auditorium)

CHAIR: Sünnje Basedow

1400 **Webjørn Melle, J. C. Holst and K. A. Mork**
Variations in hydrography, phytoplankton, zooplankton and growth of a planktivorous fish in relation to atmospheric forcing (83)

1415 **César Fuentes-Yaco, T. Platt, S. Sathyendranath, G. N. White III and P. Koeller**
Analysis of spring phytoplankton bloom characteristics in the North Atlantic using remotely-sensed visible spectral radiometry (ocean colour) (61)

1430 **Bernard A. Megrey and K. Y. Aydin**
Macrodescriptor perspective of ecological attributes for the Bering and Barents Seas (82)

1445 **Ólafur K. Pálsson, H.Valdimarsson, S. R. Ólafsdóttir, H. G. Guðfinnsson, Á. Gíslason, S. Sveinbjörnsson and H. Vilhjálmsson**
Ecological relationships and capelin distribution in the Iceland Sea and adjacent waters in 2006 (110)

1500 **Morten D. Skogen, W. P. Budgell and F. Rey**
Interannual variability of the Nordic Seas primary production (12)

1515 **Natalia G. Zhukova and V.N. Nesterova**
Winter distribution of krill (Euphausiacea) in the Barents Sea (2000-2005) (120)

1530 – 1600 **BREAK**

Wednesday 14th March
COUPLED PROCESSES BETWEEN PHYSICS AND BIOLOGY
SESSION A (Auditorium)

CHAIR: Anna Pasternak

1600 **Yiwu Zhu, K. S. Tande and M. Zhou**
Mesoscale physical processes and zooplankton productivity in the northern Norwegian shelf region (121)

1615 **Fredrika Norrbin, H.C. Eilertsen and M. Degerlund**
Vertical distribution of primary producers and zooplankton grazers during different phases of the Barents Sea spring bloom: variability in energy transfer patterns and efficiency (6)

1630 **Sünnje Basedow, K. S. Tande and A. Edvardsen**
Habitat choice by marine zooplankton (45)

1700 **Annette Samuelsen, C. Hansen and G. Huse**
Modelling the shelf recruitment of *Calanus finmarchicus* on the west coast of Norway (107)

1715 **Are Edvardsen and D. Slagstad**
Deep sea current patterns in relation to overwintering *Calanus* in the north Norwegian Sea (52)

1730 **Meng Zhou, K. S. Tande and Y. Zhu**
Productivity, trophic levels and size spectra in northern Norwegian shelf regions (138)

2000 **SYMPOSIUM DINNER**

Wednesday 14th March, 2007
BEHAVIOR/LIFE-HISTORIES/REPRODUCTION STRATEGIES
MORNING SESSION B (Room 1.425)

CHAIR: Arild Folkvord

1000-1030 BREAK

Behavior/life-histories/reproduction strategies

1030 Davnah Urbach, E. Dunlop and U. Dieckmann
Ecology and evolution of female mating preferences under size-selective fishing (25)

1045 Konstantin V. Drevetnyak
Reproduction strategies and biologically allowable level of exploitation of commercial fish stocks in the Barents Sea (50)

1100 Espen M. Olsen, Ø. Varpe, W. Melle and J. C. Holst
Assessing long-term variability in reproductive strategies of Norwegian spring-spawning herring, *Clupea harengus* (93)

1115 Jim Kennedy, O.S. Kjesbu, M. Krüger-Johnsen, H. Ndjaula, J.E. Skjæraasen, A. Slotte and A. Thorsen
Timing and fecundity determination in Norwegian spring-spawning herring (74)

1130 Erling Kåre Stenevik, A. Thorsen, O. S. Kjesbu and S. Sundby
Spawning activity of northeast Atlantic haddock (*Melanogrammus aeglefinus*) (20)

1145 Hilkka O.N Ndjaula, O. S. Kjesbu, A. Slotte, A. Johannessen and R. D. M. Nash
Long-term reproductive indices in Norwegian spring-spawning herring (*Clupea harengus L.)* (19)

1200 Christian Jørgensen and Ø. Fiksen
What types of fish should have the longest migrations? A life history model for spawning migrations in Northeast Arctic cod (72)

1215 Victor L. Tretyak
Long-term dynamics of maturation rates in Northeast Arctic cod yearclasses (116)

1230 Øystein Varpe, Ø. Fiksen and A. Slotte
Long distant migrants and their ecosystem functions: Norwegian spring-spawning herring as a case study (117)

1245-1400 LUNCH

Wednesday 14th March, 2007
BEHAVIOR/LIFE-HISTORIES/REPRODUCTION STRATEGIES
AFTERNOON SESSION B (Room 1.425)

CHAIR: Øyvind Fiksen

1400 **Lillian R Sandeman, C. T. Marshall and N. Yaragina**
How do energy reserves in Northeast Arctic cod (*Gadus morhua*) vary with environmental and biological factors? (108)

1415 **Olav Sigurd Kjesbu, A. Thorsen and P. R. Witthames**
Determination of spawning time in Northeast Arctic cod (*Gadus morhua*) using image analysis to classify oocyte development rate in relation to temperature and fish size in the laboratory and field (18)

1430 **Anders Thorsen, O. S. Kjesbu and P. R. Witthames**
Phenotypic plasticity in realised fecundity of Atlantic cod stocks under different environmental situations from the North Sea, Irish Sea and Barents Sea (17)

1445 **Ivar H. Pettersen**
On the population structure and dynamic of the cod (*Gadus morhua*) in North-Norwegian waters including the Barents-Sea, and some differences between the three main groups (102)

1500 **Sergey P. Melnikov**
Formation of functional structure of *S. mentella* habitat in the early ontogeny under the effect of macro-circulation system of the North Atlantic (84)

1530 – 1600 BREAK

Session B (Room 1.425)
Continuing: Behaviour/Life-histories/Reproduction Strategies

1600 **Katja Enberg, E. S. Dunlop, M. Heino and U. Dieckmann**
Do fisheries-induced life-history changes influence stock recovery?(53)

1615 **Anne Maria Eikeset, E. Dunlop, E. Naevdal, N. C. Stenseth and U. Dieckmann**
A bio-economic model of fisheries-induced evolution in Northeast Arctic cod (126)

1630 **Anne Kirstine Frie, V. Svetochev, T. A. Øigård and T. Øritsland**
Trends in reproductive parameters of Greenland Sea hooded seals (*Cystophora cristata*) 1958-1999 (60)

1700 **Sigurd Tjelmeland and U. Lindstrøm**
The effect of harp seals on the Barents Sea fish community – perspectives for long-term ecosystem based management (114)

1715 **Anatoly Filin, J.E. Stiansen and S. Tjelmeland**
Ecosystem dynamics and fisheries management in the Barents Sea (58)

2000 **SYMPOSIUM DINNER**

Thursday 15th March, 2007

COUPLED PROCESSES BETWEEN PHYSICS AND BIOLOGY MORNING SESSION

CHAIR: Meng Zhou

0900 **Jan Erik Stiansen, S. Sundby, A. Jenkins and J. E. Ø. Nilsen**
Swells as a turbulence source in shallow water (29)

0915 **Bjørnar Ellertsen, S. Sundby and B. Endresen**
Calanus finmarchicus in Vestfjorden - import versus local production (30)

0930 **Erling Kåre Stenevik, S. Sundby, A. Thorsen and O. S. Kjesbu**
Buoyancy and vertical distribution of haddock (*Melanogrammus aeglefinus*) eggs (26)

0945 **Svein Sundby, E. K. Stenevik and K. Jørstad**
Physical mechanisms on separation and mixing of Arcto-Norwegian cod and Norwegian coastal from Norwegian fjord cod populations during the early life pelagic stages (27)

1000-1030 BREAK

1030 **Hans L. Pécseli and J. Trulsen**
Numerical simulations of predator-prey encounters in turbulent environments: effects of viscosity and fields of view (28)

1045 **Frode Vikebø, T. Kristiansen, G. Dingsør, S. Sundby, C. Jørgensen and Ø. Fiksen**
Drift, growth and distribution in Northeast Arctic cod during the1980s – predictions from a biological individual-based model embedded in a general circulation model (23)

1100 **Trond Kristiansen, F. Vikebø, S. Sundby, G. Huse and Ø. Fiksen**
Growth and feeding of larval cod (*Gadus morhua*) in large-scale latitudinal environmental gradients (24)

1115 **Bogi Hansen, H. Drange, E. Gaard, K. M. H. Larsen, A. B. Sandø and P. Steingrund**
Climatic effects on the biological production of the Faroe Shelf (65)

1130 **Yoshie Kasajima and B. Stensholt**
The influence of the bottom wave on the migration of the Greenland halibut (73)

1145 – 1200 BREAK

Thursday 15th March, 2007

MECHANISMS FOR LARGE-SCALE CHANGES AND FUTURE DIRECTIONS IN PLATFORMS TO REVEAL FOOD-WEB DYNAMICS
AFTERNOON SESSION

CHAIR: Svein Sundby

Invited speakers

1200 **Simon Jennings** How fishing and the environment interact to affect food web structures, dynamics and diversity; insights from stable isotope analysis

1230 **Olav Rune Godø** Future directions in operational platforms to reveal food web dynamics

1300-1400 LUNCH

1400 **Vidar S. Lien and P. W. Budgell**
Interannual and decadal variability in the Nordic Seas - results from a global hindcast (79)

1415 **Øystein Skagseth, K. A. Mork and H. Loeng**
Variations in the cascading Barents Sea bottom water into the Norwegian Sea (39)

1430 **Helge Drange, I. Bethke, T. Furevik, K. Lygre and M. Bentsen**
Projected changes in the climate of the Barents Sea region in the 21st century (41)

1445 **Bjørg Risebrobakken**
Long term trends and natural amplitude changes of Barents Sea bottom water temperatures (42)

1500 **Kjell Arne Mork, W. Melle and Ø. Skagseth**
Variability in the ocean circulation, hydrography and biological production in the Norwegian Sea (87)

1515 **Gro Harlaug Olsen, M. Carroll, P. Renaud, W. Ambrose, K. Hylland and J. Carroll**
Experimental test of petroleum-associated compounds on benthos at multiple level of biological organization (94)

1530 – 1600 BREAK

Continuing: Mechanisms for large-scale changes and future directions in operational platforms to reveal food web dynamics

1600 **Rune Storvold, K. A. Høgda, S. Solbø and F. Sigernes**
New remote sensing technologies with applications for marine sciences (135)

1615 **Arnfinn Skadsheim**
Assessing and monitoring local and long range transported hydrocarbons as potential stressors to fish stocks (125)

1630 **Steingrimur Jonsson, H. Valdimarsson and H. Bjornsson**
Climatic variability in Icelandic waters and potential effects on biota. (70)

1645 **Ken Drinkwater, E. Colbourne, H. Loeng and S. Sundby**
Comparison of the physical forcing in the Barents Sea and the Labrador Shelf (40)

1700 **Geir Ottersen**
Long-term changes in age-structure of major North-east Atlantic fish stocks – and possible consequences (100)

1715 **Yasunori Sakurai**
The UNESCO World Natural Heritage Site at Shiretoko, Japan: preserving both marine diversity and local fisheries (3)

1730 **Erik Olsen**
Ecosystem surveys – a tool for implementing the ecosystem approach (92)

Closing addresses

1745 **Kurt Tande**
