

Theme Session I

Quantifying, summarizing, and integrating total uncertainty in fisheries resource surveys

Conveners: David Demer (USA) and Steve Smith (Canada)

Agenda and Order of the Day

Friday 22 September 10.00–12.30 (Room 0.4)

Friday 22 September 13.30–15.30 (Room 0.4)

Friday 22 September 16.00–18.00 (Room 0.4)

| | Time |
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| 1. Opening David Demer (USA) and Stephen Smith (Canada) | 10.00 |
| 2. Introduction | |
| 3. Presentation of Papers | |
| <i>Code Author(s) and title</i> | |
| Trawl surveys | |
| I:01 <i>S. J. Smith, M. J. Lundy, B. J. Todd, V. E. Kostylev, and G. Costello: Incorporating bottom type information into survey estimates of sea scallop (<i>Placopecten magellanicus</i>) abundance</i> | 10.30 |
| I:02 <i>Michael C. S. Kingsley, Bo Bergstrøm, Kai Wieland, and Michael Rosing: A Bayesian gear change: estimating and using a correction factor for survey catchability</i> | 10.50 |
| I:03 <i>Michael C. S. Kingsley: Uncertainty in surveys carried out using non-independent sampling: quantifying and summarising</i> | 11.10 |
| I:05 <i>Marie-Joëlle Rochet, Verena M. Trenkel, and André Battaglia: Estimating end effect in trawl catches</i> | 11.30 |
| I:07 <i>Daniel K. Kimura: Interpreting spatial variability found in fishery survey data</i> | 11.50 |
| Discussion | 12.10 |
| Lunch break | 12.30 |
| I:19 <i>Hans Gerritsen and David McGrath: An overview of sources of bias and uncertainty in fisheries surveys</i> | 13.30 |
| I:08 <i>Aril Slotte, Dankert Skagen, and Svein A. Iversen: Size and condition of mackerel in research vessel trawl hauls versus commercial purse seine catches: implications for acoustic biomass estimation</i> | 13.50 |
| Acoustic surveys | |
| I:09 <i>David Demer: Estimates of sampling and measurement error in acoustic surveys of Antarctic krill</i> | 14.10 |
| I:10 <i>Kjell R. Utne and Egil Ona: Acoustic extinction in dense herring layers, measured from a bottom-mounted transducer</i> | 14.30 |
| I:11 <i>Egil Ona: Seasonal variability in cod target strength</i> | 14.50 |
| I:13 <i>Magne Aldrin and Anders Løland: Estimating and decomposing total uncertainty for survey-based abundance estimates of Norwegian spring-spawning herring</i> | 15.10 |
| Coffee break | 15.30 |

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| I:14 | <i>S. M. Kasatkina and P. S. Gasyukov</i> : Estimating uncertainty in Baltic acoustic survey results applying geostatistics techniques and simulation | 16.00 |
| I:15 | <i>Mathieu Woillez, J. Rivoirard, and P. Fernandes</i> : Evaluating the uncertainty of abundance estimates from acoustic surveys using geostatistical conditional simulations | 16.20 |
| I:16 | <i>Martin J. Cox, Jonathan L. Watkins, Monique L. MacKenzie, and Andrew S. Brierley</i> : The effect of missing acoustic observations (dropped pings) on mean area density estimates of Antarctic krill (<i>Euphausia superba</i>) | 16.40 |
| I:18 | <i>Valerie Mazauric, Laurent Berger, and Verena Trenkel</i> : Biomass estimation using the new scientific multibeam echo sounder ME70 | 17.00 |
| I:20 | <i>Geir Pedersen, O. R. Godø, E. Ona, T. Torkelsen, and R. Pedersen</i> : Uncertainty in <i>in situ</i> target strength measurement of blue whiting (<i>Micromesistius poutassou</i>) | 17.20 |
| I:21 | <i>Espen Johnsen and Olav Rune Godø</i> : Diurnal variation in acoustic abundance of blue whiting (<i>Micromesistius poutassou</i>) – an effect of tilt angle distribution? | 17.40 |

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Saturday 23 September 09.30–11.00 (Room 0.4)

Saturday 23 September 11.30–13.30 (Room 0.4)

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| | Opening David Demer (USA) and Stephen Smith (Canada) | 09.30 |
| I:22 | <i>Vidar Hjellvik, Nils Olav Handegard, and Egil Ona</i> : Correcting for avoidance in acoustic abundance estimates for herring using a generalized linear model | 09.40 |
| I:23 | <i>Olav Rune Godø, Vidar Hjellvik, and Dag Tjøstheim</i> : Diurnal variation in frequency response of gadoids in the Barents Sea | 10.00 |
| I:24 | <i>Vidar Hjellvik and Egil Ona</i> : How many trawl hauls, and how many fish from each haul are needed to obtain a given precision in the age structure estimate for Norwegian spring-spawning herring? A bootstrap approach | 10.20 |
| I:25 | <i>Carla Scalabrin, J. Y. Coail, G. Bavouzet, J. P. Vacherot, M. Le Goff, and J. Morard</i> : Comparing data from hull mounted and ROV acoustics: impact on acoustic density measurements of different target to sensor distances | 10.40 |
| | Coffee break | 11.00 |
| I:26 | <i>Ian Doonan</i> : Quantifying error sources in deepwater acoustic surveys | 11.30 |
| I:27 | <i>Jacques Massé, Verena Trenkel, Caroline Kostecky, and Sonia Mehault</i> : An attempt to reduce species mis-identification in acoustic assessment by using school descriptors, including multi-frequency indices | 11.50 |
| I:29 | <i>Paul Walline</i> : Sequential geostatistical simulation methods to assess the error distribution function for biomass determined from acoustic survey data | 12.10 |
| I:30 | <i>Leo A. J. Nagelkerke and Iyob Tsehaye</i> : Sampling fisheries with high levels of accepted relative error may lead to overestimation of the statistical power of trend detection | 12.30 |
| I:12 | <i>Michael Pennington and Odd Nakken</i> : Timely evaluation of stock status based on scientific surveys, an update | 12.50 |
| I:28 | <i>Marine Pomarede, J. Simmonds, R. Hillary, M. McAllister, L. Kell, and C. Needle</i> : Evaluating the management implications of different types of errors and biases in fisheries resources surveys using a simulation-testing framework | 13.10 |

Posters

- I:32 *Jeppé Kolding and Paul van Zwieten*: Lake Victoria Nile perch fisheries threatened by exploitation or eutrophication?
- I:33 *Rainer Oeberst and Eberhard Götze*: Combination of trawl results during acoustic surveys – case study
- I:34 *Vasily Sokolov*: Trap survey on the fishery boats as a promising way for stock assessment of red king crab (*Paralithodes camtschaticus*) in the Barents Sea
- I:35 *Vidar Hjellvik, Olav Rune Godø, and Dag Tjøstheim*: Can the precision of bottom trawl indices be increased by using simultaneously collected acoustic data? The Barents Sea experience
- I:36 *Carla Scalabrin, V. Trenkel, and D. Choqueuse*: Autonomous bottom moored acoustic observatory for fish resources monitoring
- I:38 *Einar Júlíusson*: A novel approximation (ice) for tuning the VPA
- I:41 *Maria Conception Villanueva, B. Ernande, Sandrine Vaz, Jean-Paul Delpéch, and A. Carpentier*: Trophic food web and ecosystem attributes of the Eastern English Channel